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**Public Wheat Imports to Ethiopia since 2008: The Rationales and
Cost-Effectiveness**

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Table of Contents

1. Introduction.....	1
2. Policy Justifications and Rules for Government Imports.....	2
3. Data and Methods	5
4. Results.....	5
4.1. <i>Trends in wheat imports</i>	5
4.2. <i>Further insights on EGTE imports</i>	8
4.3. <i>How much would domestic wheat prices have gone up in the absence of import?</i>	9
4.4. <i>Could government have saved valuable foreign exchange by procuring domestically?</i>	12
5. Summary and Implications	14
References	16
Annex: Additional Tables and Charts	17

List of Tables

Table 1: Wheat Import into Ethiopia, 2007-13.....	6
Table 2: Wholesale price of wheat in the absence of imports.	9
Table 3: Import versus domestic procurement of wheat, 2008-13	12
Table 4: Import parity and simulated domestic prices in the absence of imports, 2007-13	13
Table 5: Potential Foreign Exchange Savings due to Local Procurement of Wheat	14

List of Figures

Figure 1: Import and Wholesale Price of Wheat in Addis Ababa, 2007-13.....	7
Figure 2: Figure 2: Trends in Domestic and International Price of Wheat, 2007-13.....	8
Figure 3: Comparison of Import Parity Prices in the Absence of Import.....	11

1. Introduction

Public interventions in the cereal markets of Ethiopia drastically declined after the country embarked on market liberalization in the late 1990s. The government's share in domestic cereal markets fell from around 40 percent in the 1980s to about four percent by the end of the 1990s and averaged less than two percent from 2001-2007. More importantly, the government did not engage in any large-scale imports of cereals after the launch of their market liberalization programs. This started to change when domestic prices of staple cereals began to rise sharply; wheat and maize prices reached close to US\$300 above the import parity by mid-2008 (Rashid et al. 2013).

The sharp increase in domestic prices coincided with the 2007/08 global food crisis, but the situation in Ethiopia was not directly linked to the world market. Instead, price hikes in Ethiopia's food market were due to a combination of factors, especially macroeconomic challenges related to the money supply and balance of payments (Rashid 2010; European Commission 2012). Similar to other developing countries, the 2007-08 global food crisis brought about a fundamental change in policy perception: that governments need to intervene to minimize the political and human costs of rising food prices. In Ethiopia, this resulted in several policy changes: a ban on cereal exports, a re-introduction of urban food rationing programs, the distribution of subsidized cereals through flour mills, and the suspension of local procurement of cereals (Rashid and Lemma 2011). Since local procurement ceased, the only way to support the country's rationing and safety net programs was to import large amounts of cereals and, given foreign exchange shortages, the imports were carried out through the country's food logistic agency, the Ethiopian Grain Trading Enterprise (EGTE).

Once again, the EGTE became the dominant actor in the Ethiopia's cereal market. In 2008, it imported more than a million tons of wheat, which is equivalent to about 40 percent of total domestic production and almost 250 percent of the marketed volume of wheat.¹ Large-scale imports of wheat continued, although at smaller scales, but picked up again in 2013. As of November 2013, the EGTE had already finalized a Letter of Credit (LC) to import 800 thousand tons of wheat, most of which would be distributed by flour mills at subsidized prices in 2014. This is an enormous volume of imports relative to the market size. In addition, the policies that support these imports are at odds with several other policies that promote agricultural productivity in Ethiopia. The Central Statistical Agency (CSA) has just released its crop forecast for the 2013/14 cropping year, and the data shows that programs to support higher yields of staple cereals has started to pay off. Production of these cereals is expected to increase by more than 15 percent (from 19.65 million tons in 2012/13 to 22.7 million tons in 2013/14).

¹ Domestic production of wheat in 2008 was 2.31 million metric tons and, according to CSA, marketed surplus is about 19% of total production.

Teff and wheat, which account for about 38 percent of total cereals production, are expected grow by 24.08 and 17.60 percent, respectively. This impressive growth is a direct outcome of policy changes undertaken by the Ministry of Agriculture (MoA) and the Ethiopian Agricultural Transformation Agency (ATA). When looking at these two conflicting policies, they can be compared to the analogy of a car driver putting one foot on the break (imports of cereal) and the other foot on the accelerator (productivity growth programs). This paper attempts to address this policy conundrum by addressing a set questions:

- a) Are large volumes of wheat imports justified given the available knowledge about the country's cereal markets?
- b) To what extent have wheat imports depressed domestic prices and distorted farmers' incentives to grow wheat?
- c) Are the policies that support public imports of wheat compatible with the country's ongoing agricultural policies and programs to enhance cereal productivity?
- d) Could the government have saved precious foreign exchange by procuring locally (instead of importing) without causing a sharp increase in domestic prices?

The objective of this paper is to generate evidence for the ATA so that they can engage in the policy discussion of whether public imports of wheat should continue. It should be noted that our research did not address each of these questions with equal depths of analytical rigor.² The rest of the paper is organized as follows. Section II provides a brief overview of the policy context in which government instituted large-scale public imports, which is followed by Section III, a description of the data and methods. Section IV discusses the main results, and the paper concludes with a summary and implications.

2. Policy Justifications and Rules for Government Imports³

What justifies the EGTE's interventions (imports and distribution) in Ethiopia's wheat market? Typically, the presence of *market failures*—inadequate infrastructures, incomplete credit and insurance markets, and information asymmetry— are the basis for public interventions in the markets (Timmer 1989; Rashid 2008, UN-HLPE 2010). Some policy documents justify public interventions by highlighting several areas of market failures, but in the context of agricultural transformation, two arguments are particularly relevant:

- *Cereal-centric production systems*: If the markets do not function properly, farmers tend to focus on self-sufficiency in food staples to ensure the household's food security (de Janvry et al., 1991). That is, the production system may remain cereal centric unless food prices are stabilized.

² For instance, our analysis does not account for the dynamic effects of higher / lower domestic prices in the absence of imports or increased productivity.

³ Broad rationales for food price stabilization in a contemporary context are discussed in Rashid (2009)

- *Lack of diversification*: If cereal prices are volatile, farmers are less likely to diversify and more likely to adopt less risky (and less profitable) farming activities. This implies that, unless staple food prices are stable, the agriculture sector in developing countries are less likely to commercialize—which is one essential vehicle for agricultural transformation.⁴

From an agricultural transformation perspective, one can argue that through price stabilization policies, a country can break free from the cereal-centric, low production, and a less profitable system to a more commercialized and dynamic agricultural sector. We find no evidence, however, that recent wheat imports contributed towards price stabilization in Ethiopia; instead, it was a response to macroeconomic challenges. Ethiopia witnessed this same case decades ago: in the 1970s and 1980's, Ethiopia adopted food price stabilization policies with an outcome that was contrary to theoretical predictions. Instead of becoming dynamic, agriculture stagnated for decades.

What has changed? While parastatal-centric policies of cereal price stabilization proved expensive and led to rent seeking and inequitable distribution of benefits,⁵ price stabilization has received renewed attention following the 2007/08 global food crisis. While few dispute the importance of developing better functioning markets as a long-term solution, many argue that there is a need for short-term interventions to address price instability—particularly if complete liberalization exposes countries to levels of volatility that are unacceptable in terms of economic, political, and human costs.

Thus, there are understandable reasons for a renewed focus on food price stabilization in developing countries. However, in order to avoid making the same mistakes, these policies should be guided by clearly-defined rules of engagement. In particular, special attention should be paid to the following points:

1. There should be a clear understanding of the underlying causes (both market and non-market factors) of rising food prices.
2. If public intervention is deemed necessary, the policy actions—imports, local procurement and distribution by public agencies—need to be guided by transparent rules for public sector engagement.

Given Ethiopia's experiences since 2007, it is particularly important to pay attention to the first consideration. While cereal prices rose unusually high during 2007-2009, it was not due to market failures. Available studies suggest that it resulted primarily because of macroeconomic challenges and, to a lesser extent, a mismatch between crop forecast predictions and actual production. The two main macroeconomic challenges were faster growth in the money supply and rationing of foreign exchange.

⁴ This is a common line of argument; for details, see Fafchamps, 1992; Dercon 1996; Murdoch, 1990)

⁵ For details, see Bates, 1981; Newbery and Stiglitz, 1981; and Sahn et al., 1997.

A World Bank study argued that the money supply increased 40 percent faster than the country's GDP, defying the *quantity theory of money* and causing strong inflationary pressure from 2004-2007 (World Bank, 2008). As a result, while prices of staple cereals increased in nominal terms during this period, real prices remained relatively stable.

Another macroeconomic challenge was foreign exchange rationing. Historically, Ethiopia has subsidized gasoline prices in order to reduce transactions costs and promote market development. During the dramatic rise in oil prices in 2007-2008, the country did not adjust local prices until the subsidy bill had reached US\$700 million, knocking the country's balance of payment out of equilibrium. The foreign currency reserve fell below the critical requirement of 12 weeks' worth of imports. The government responded by instituting foreign exchange rationing, which included a ban on the private sector from importing cereals, even though domestic prices stayed above import parity for almost two years (Rashid, 2010; and Dorosh and Ahmed, 2009).

A third explanation for rising cereal prices was over-estimation of cereal production. The price trend in 2007-2008 was puzzling because prices were going up despite consecutive years of bumper harvests. In collaboration with the Joint Research Centre (JRC) of the European Commission, the Ethiopian Development Research Institute (EDRI), and the Ethiopian Institute of Agricultural Research (EIAR), IFPRI conducted a comprehensive study to better understand these trends. The study included a representative household survey, a market survey, a cross border trade survey, as well as analyses of a large amount of time series data. One of the key findings of the study was that production estimates of cereal was roughly 30 percent lower than official estimates (European Commission, 2012).

Governments cannot rely on market forces when food prices exhibit such unusual trends. However, the effort to stabilize price can distort production incentives unless new policies are transparent and rule-based. Given the current level of production, continuous and large-scale imports of cereal can depress domestic prices and be counter-productive to the ATA's interventions to increase crop production. The World Bank outlined an elaborate set of rules in a 2005 study on managing food price instability and risks. A central recommendation of the study, and a number of studies before that, was to stabilize food prices within a well-defined price band. A simple rule to enforce such a band might be to *make the decision to import based on the projected domestic and import parity prices*. If the government needs staple foods for safety nets and other public programs, the policy decision regarding public procurement can be as follows:

- Import if the domestic prices are expected to be higher than import parity, and
- Procure locally if the domestic prices are expected to be lower than the import parity.

If the government imports when procurement from local markets would be less expensive, this action would not only depress domestic prices but also waste foreign exchange, which has been a critical macroeconomic challenge for the Ethiopian government since 2007/08.

3. Data and Methods

Analyzing the rationales and cost-effectiveness of public procurement requires an unusual set of data that are often not readily available. For instance, the transactions costs of domestic trade, which is essential for comparing imports with local procurement, are not tracked or published by any national or international agencies. There are, however, three potential sources of such data: (a) market surveys periodically conducted by national or international agencies; (b) public agencies (e.g., EGTE) involved in trading; and (c) the United Nations' World Food Program (WFP), which participates in both local and international movement of cereals. We used data from all three sources and triangulated with other data for consistency and reliability. However, none of these three data sources are perfect. Since they are not collected on a regular basis, these data do not track seasonality, an important element of transactions costs. Additionally, neither the UN nor government-reported transaction costs are likely to be the same as the costs faced by the private sector.

Methodologically, the main challenges of comparing imports with domestic procurement are two-fold: comparability of commodity quality and the lack of counterfactual. The quality of imported wheat can be very different from domestic wheat, making it difficult to compare their prices. Two counterfactuals are also critical for import and domestic procurement to be comparable: (a) domestic prices if there were no imports, and (b) domestic prices if the government had procured locally. If domestic prices are above import parity (full costs of import to a given destination within the country), as was the case in 2008, price stabilization becomes the priority for the government. On the other hand, if the domestic prices are below import parity, it becomes necessary to understand if prices are likely to go above import parity in the absence of public imports. We simulate these counterfactuals using available estimates of the elasticity of demand for wheat.

4. Results

4.1. Trends in wheat imports

Data on several trends (international prices, domestic prices, production, food aid imports, transactions costs, exchange rates, import taxes, etc.) are important to understand the cost-effectiveness of public imports relative to domestic procurement. We present summary statistics for such variables in this section. We begin by exploring wheat imports.

After Ethiopia had embarked on market liberalization in the late 1990s, wheat imports were limited to food aid. In 2007, of the total 580 thousand tons of imports, only 200 thousand tons were commercial imports, and the imports were solely carried out by private sector millers. Since then, commercial imports have consistently exceeded food aid imports (Table 1). This is the point of departure for our analysis.

Table 1: Wheat Import into Ethiopia, 2007-13

Year	Wheat and Meslin (HS-1001)		Durum Wheat (HS-100110)		Total		Price (US\$/Mt)	Of the Total Import Volume	
	volume. (Mil.MT)	Value (Mil US\$)	Volume (Mil MT)	Value (Mil US\$)	Volume (Mil MT)	Value (Mil US\$)		Food aid	Comme rcial
2007	0.38	134.0	0.20	58.3	0.58	192.3	329.9	0.39	0.20
2008	1.10	465.2	0.82	338.2	1.92	803.4	418.8	0.64	1.28
2009	1.11	321.6	0.80	220.3	1.92	541.9	282.9	0.92	0.99
2010	1.05	304.3	0.89	251.7	1.94	556.0	287.2	0.78	1.15
2011	1.08	402.6	0.60	224.0	1.68	626.6	372.9	0.59	1.09
2012	1.01	333.0	0.51	187.6	1.52	520.6	341.7	0.64	0.88
2013					0.86	438.5	548.2	0.06	0.80

Note: Imports data for 2007-2012 are from the UN-COMTRADE database; 2013 data are from the EGTE and FAO (actual number may be bigger). Food aid data are from the FAO; and the commercial imports is the difference between total imports and food aid.

Given market prices, the trend in commercial imports is puzzling. Commercial imports can increase if the private sector can profitably import to the country, but due to foreign exchange rationing, private imports of cereals has been restricted since 2008. Therefore, one can assume that commercial imports should be equal to the EGTE imports. However, import data that we have obtained from the EGTE does not seem to correspond with the reported commercial import numbers. According to the data we have obtained, the EGTE imported about 1.1 million tons in 2008; did not import in 2009 and 2010; imported 300 hundred thousand tons each year in 2011 and 2012; and 800 thousand tons in 2012. When comparing these numbers with the numbers in Table 1, it becomes evident that there are large discrepancies between the EGTE data, the data reported in the UN-COMTRADE, and the FAOstat databases. There are three potential explanations for these differences:

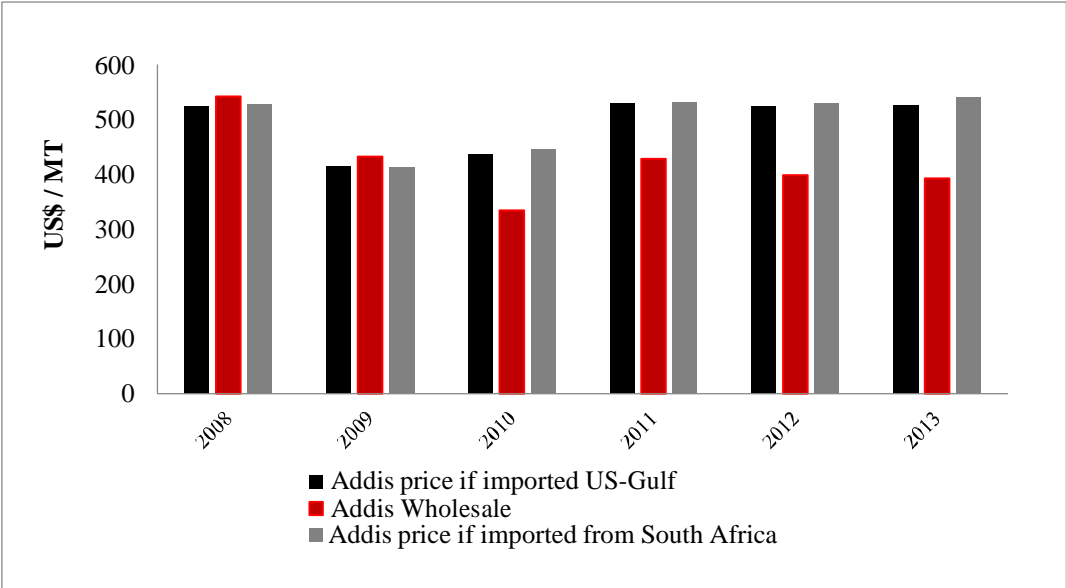
1. The EGTE data we have obtained are inaccurate and under-reported,
2. UN-databases over reported commercial imports; or
3. The private sector managed to obtain foreign currency and accounted for large shares commercial imports.

The first two explanations have to do with data reporting, but the third one is testable. We ask the question: could the private sector have imported profitably in all these years? The answer would be yes if domestic prices were above or around import parity. We do this by comparing the Addis Ababa wholesale prices with the costs of imports from the US-Gulf and the South Africa. The FOB prices at the US-Gulf and Durban were obtained from the FAO databases. The freight costs, cost and port handling, and local transportation costs were obtained from the WFP and reflect the actual costs of wheat imports to the Ethiopia. Clearly, these numbers can be for

the private sector and the EGTE. In fact, as we discuss later, the WFP incurs a port handling and domestic transportation cost that the EGTE does not pay. Also, the freight costs reported in a 2006 World Bank report is less than a third of what WFP paid in 2008. Without making any corrections for these cost factors, we find the following:

- Commercial imports could have been profitable only in 2008 and 2009 (Figure 1). In all other years, private imports would have incurred a large loss—irrespective of the source of imports.

Figure 1: Import and Wholesale Price of Wheat in Addis Ababa, 2007-13



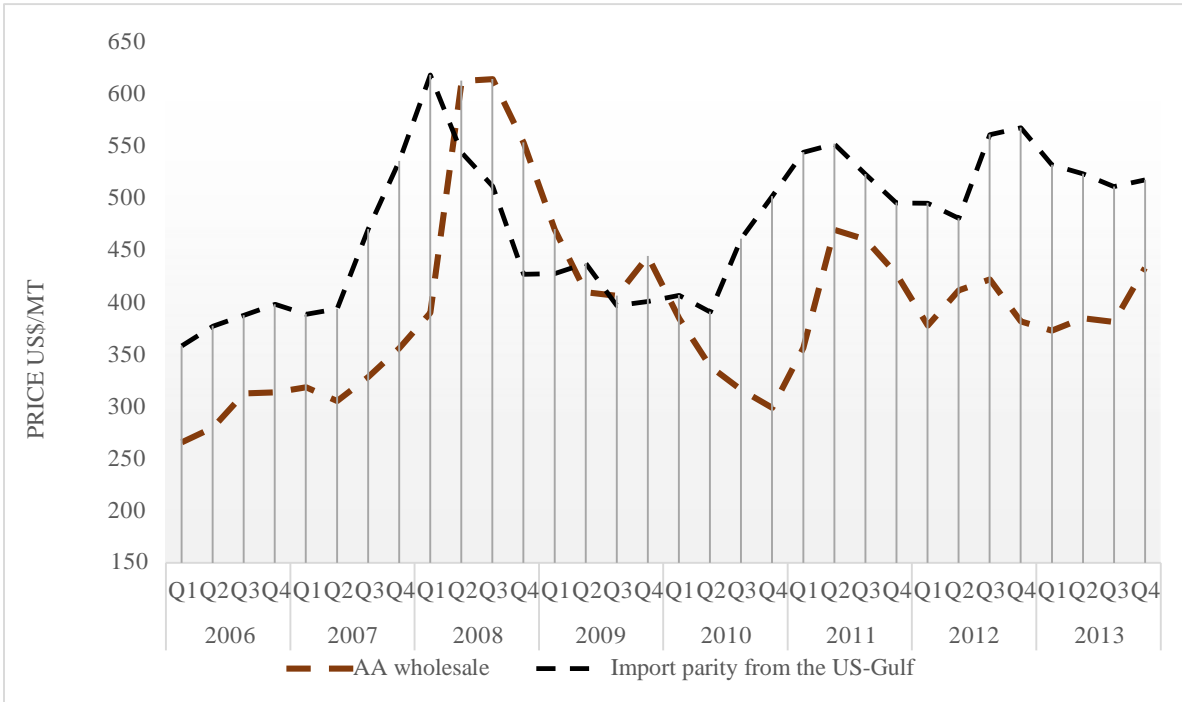
- Since the global wheat market is well integrated, it is unlikely that imports from any other country would have resulted in a profit unless there were export subsidies in the source countries or import subsidies in Ethiopia.
- Therefore, large-scale commercial imports are puzzling, especially in 2009-10 when The EGTE reported that they did not import wheat.

4.2. Further insights on EGTE imports

As already discussed, imports in 2008/9 were justified on the ground of macroeconomic challenges and price stabilization. Figure 1 shows that domestic prices remained above import parity despite large-scale imports. So what justifies wheat imports since 2011? One argument is that even when domestic prices are below import parity, the government needs to act when domestic market prices begin to increase. Since the annual data cannot discern such trends, we present the

quarterly data in Figure 2:

Figure 2: Trends in Domestic and International Price of Wheat, 2007-13



This figure is consistent with the annual data that we have already presented—on average, domestic prices remained above import parity in 2008 and 2009. In addition, the figure shows that prices were rising rapidly in the 4th quarter of 2010 and remained high well into 2011. This perhaps explains why the EGTE was instructed to import in 2011. However, if these data are accurate, we see no justifications for public imports of wheat in 2012 and 2013 when domestic prices remained far below import parity—unless one can show that prices would have gone above import parity in the absence of imports. We explore this possibility by constructing some counterfactuals in the next sub-section.

4.3. How much would domestic wheat prices have gone up in the absence of EGTE import?

We used a simple partial equilibrium approach to establish this counterfactual. First, we took a range of price elasticity estimates and represented commercial imports as a percentage increase in domestic supply of cereals. For illustration, suppose that the percentage change in local food availability due to import is six percent. If we assume an elasticity of 0.5, price change due to import will be 12 percent. Now, this is simplistic because this calculation relies on a number of implicit assumptions: no change in income, population, and demand and wheat is a close substitute for other cereals. We also have only considered the commercial imports because food aid will most likely have little effect on the markets as they are distributed to the section of the population that would otherwise not have access to markets. The results are in Table 2 below:

Table 2: Wholesale price of wheat in the absence of imports.

Year	Commercial Import (in million tons)	Domestic Production	Addis Abba Wholesale Price (US\$ / ton)	Addis prices (US\$/ton) in the absence of imports, assuming		
				€=0.30	€=0.45	€=0.60
2007	0.20	12.87	326.9	343.7	355.5	364.7
2008	1.28	9.01	541.7	705.7	848.2	976.7
2009	0.99	14.50	432.1	512.0	575.0	628.2
2010	1.15	15.53	334.2	397.9	448.3	491.0
2011	1.09	17.76	427.9	476.2	512.1	541.0
2012	0.88	19.15	398.0	433.5	459.2	479.7
2013	0.80	19.65	392.7	445.9	486.3	519.3

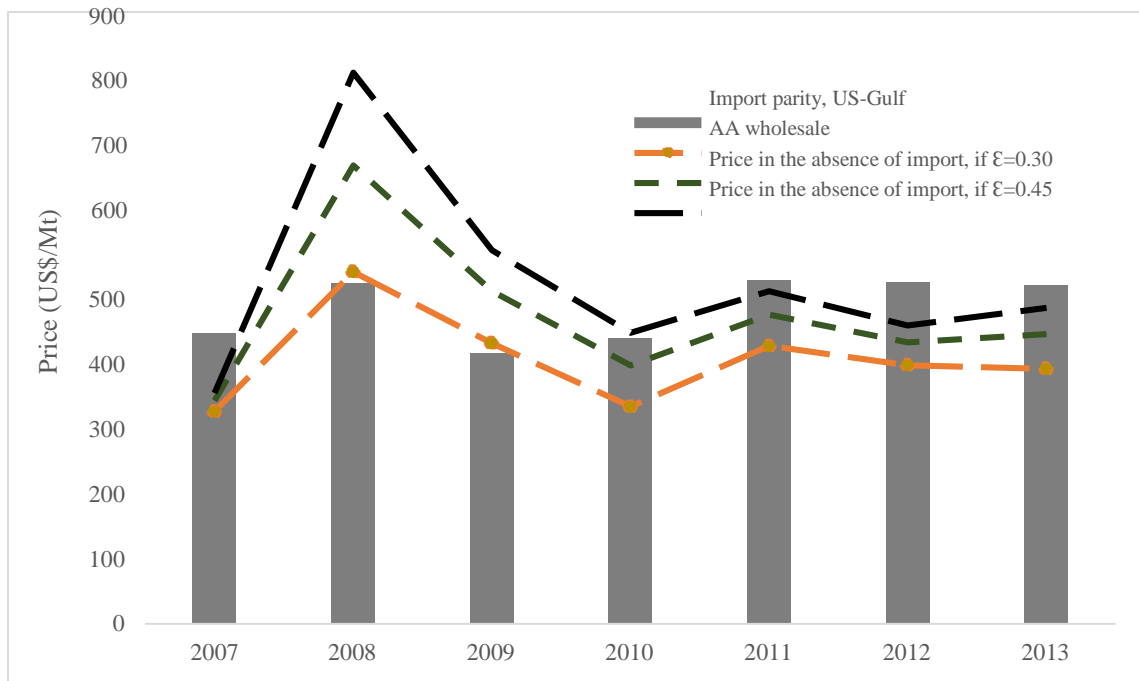
Source: Authors' calculations based data from EGTE, CSA, and UN-COMTRADE. The estimates of price elasticity of wheat varies widely, ranging from 0.4 (Diao et al., 2007) to 1.0 (Berhane et al., 2013) we think any estimates above 0.6 are on the higher side.

The estimates in Table 2 suggest that in 2008-2009, wholesale prices would have gone up in the absence of imports quite significantly if prices are assumed to be moderately responsive. This is not a surprise. It is important to observe, however, the magnitude of price increases. It is perhaps reasonable to assume that, in the absence of large-scale imports, wholesale prices of wheat in Addis

would have jumped within the range of \$700-1000 in 2008 and \$500-600 in 2009. For the other years, the price increase would have been moderate relative to domestic prices. So, clearly consumers have benefited from large-scale imports.

Two follow-up questions are important from a policy standpoint: (i) would prices have gone above import parity in the absence of imports? (ii) did benefits to consumers outweigh the losses to farmers due to lower prices? To answer the first question, we compare the counterfactual prices (prices in the absence of imports presented in Table 2) with import parity from the US-gulf. The results show (see Figure 2) that although Addis Ababa wholesale prices would have gone up, it would not have exceeded import parity from the US or other potential trade partners.

Figure 3: Comparison of Import Parity Prices in the Absence of Imports



Source: Authors computations see the Annex for details on freight, port handling, and domestic transportation costs of import.

We did not conduct a comprehensive analysis quantitatively to measure the sizes of consumers' and producers' surpluses. For this reason, we cannot provide a definite answer on whether or not the net benefits of commercial imports (especially by the EGTE) have been positive. However, given the numbers shown in Figure 2, we draw the following two conclusions:

- Imports by the EGTE during 2010-2013 were inefficient as domestic prices in the absence of imports **would not have exceeded** the import parity prices.
- These imports have most likely negatively affected technology adoption and growth in the wheat sector. For example, during the Green Revolution, governments of Asian countries purchased crops from the farmers **at a higher than prevailing market price to address risks and promote technology diffusion**. The logic behind this move is very simple. Even though buying from farmers at higher-than-market-prices may not yield net benefits in the short-run, the promotion of technology can have greater advantages in the long-run in terms of both food security and poverty reduction.

4.4. Could the government have saved valuable foreign exchange by procuring domestically?

The total wheat import bills in Ethiopia have ranged from US\$520 million in 2012 to US\$800 million in 2008 (Table 1). These are large bills, especially because the government was struggling to build its foreign exchange reserve around the same time. Could the government have improved the nation's foreign currency reserve by better managing wheat imports? Theoretically, the government could have accomplished this in two ways: (a) forgoing purchases of wheat imports (b) purchasing locally-grown wheat when markets were favorable. Neither of these options were feasible in 2008-2009. However, because there are extensive food-based safety net programs in Ethiopia, the government needs food stocks, irrespective of the level of the market prices. So, the question boils down to whether or not the government (EGTE) could have procured locally instead of importing.

Table 3: Import versus domestic procurement of wheat, 2008-13

Market locations	Fob price	Sea Freight charge	Port handling and Inland transport cost	Landing costs at Addis, if imported
US-Gulf	<i>(.....in US Dollars per metric ton.....)</i>			
2008	344.3	89	90	523.3
2009	235.4	89	90	414.4
2010	240.3	89	136	465.3
2011	330.7	90	136	556.7
2012	326.9	90	136	552.9
2013	327.7	90	136	553.7
Durban (South Africa)				
2008	368.00	70	90	528.0
2009	252.35	70	90	412.4
2010	267.28	70	136	473.3
2011	348.67	75	136	559.7
2012	346.17	75	136	557.2
2013	357.41	75	136	568.4
Domestic	Assela wholesale price	Transport cost	Other cost*	Landing costs in Addis, if procured locally
2008	464.1	30.9	56.0	551.1
2009	336.1	25.6	45.8	418.9
2010	273.4	20.9	43.5	337.8
2011	362.0	17.8	38.4	418.1
2012	326.9	17.0	24.6	368.5
2013	324.3	16.1	31.3	371.6

Source: FOB prices are from FAO; Domestic wholesale prices are from EGTE; and freight and transportation costs are from WFP

*Other costs include loading unloading, cleaning, a loss of 3 kg / ton in cleaning, rebadging and storage fumigation

We examine this question by comparing the costs of procuring from a wheat growing region in Ethiopia with the imports from three potential trade partners (USA, South Africa, and India). For both import and local procurement, wheat prices are evaluated at Addis Ababa. For imports, we added freight costs (obtained from the WFP) to the FOB price to compute prices at Djibouti and then added port handling, transportation, and other charges to calculate the Addis Ababa prices. The results are presented in Table 3, and clearly suggest that local procurement would have been cheaper than imports in all years except 2008 and 2009.⁶ If the the EGTE had procured locally instead of importing, it would have cost US\$ 551 or about US\$29 higher than the import cost of US\$523.

We need to make one last refinement before computing the savings from domestic procurement. One can argue that since domestic prices were depressed due to imports, price build up from Assela may not be strictly comparable. A valid comparison would be between counterfactual prices (in Figure 2) and the import parity. Results of such a comparison is presented in Table 4 below.

Table 4: Import parity and simulated domestic prices in the absence of imports, 2007-13

Year	Difference between import parity and the counterfactual prices in the absence of imports:								
	USA-Gulf			South Africa (Durban)			India (Mumbai)		
	ε=0.3	ε=0.48	ε=0.70	ε=0.3	ε=0.48	ε=0.70	ε=0.3	ε=0.48	ε=0.70
2007	192.8	181.0	171.8	273.9	262.1	252.9	205.4	193.5	184.4
2008	-91.5	-234.0	-362.4	-17.3	-159.8	-288.2	-156.3	-298.8	-427.3
2009	-6.8	-69.8	-123.0	31.8	-31.2	-84.4	28.2	-34.8	-88.0
2010	177.7	127.2	84.5	233.9	183.4	140.8	242.6	192.2	149.5
2011	187.6	151.7	122.8	275.1	239.2	210.3	152.1	116.2	87.3
2012	227.8	202.1	181.6	281.8	256.0	235.6	192.3	166.6	146.1
2013	210.2	169.9	136.9	246.4	206.1	173.1	228.1	187.7	154.7

Source: Authors' calculations based on the UN-COMTRADE, FAOstat, and EGTE data

A negative number in the table implies that simulated domestic prices would have been larger than the import parity if the price elasticity is assumed to be in the range of 0.3 to 0.7, which is what is commonly assumed in food and agricultural policy literature. The reason for low price elasticity of staple food is simple: in the face of price increases, the poor would cut other expense (e.g., taking kids out of school) instead of the reducing the bare minimum intake of cereals, the primary source of calories. Now, the numbers in Table 4 suggest that the domestic prices would have gone above import parity only 2008 and 2009; and this holds across all three major trade partners for wheat imports (the US, South Africa, and India).

⁶ In Table 3, we have used the WFP estimate of US\$136 per tons for port handling and domestic transportation costs. The EGTE estimates of Djibouti to Addis in 2012 and 2013 are lower at around US\$108 (Annex Table 1). However, broad implications do not change no matter whether we use WFP or EGTE estimates

In all other years, wheat prices in the absence of imports would have been higher, but NOT higher than the import parity prices, suggesting that local procurement of wheat would have been justified, provided better incentives to the wheat growers, and would have saved foreign exchange.

How much foreign exchange could the government have saved by procuring locally? If domestic prices do not exceed import parity in the absence of imports, the calculation of foreign exchange savings should be straightforward: it is the product of import volume and the c.i.f. price of wheat. As we have already demonstrated, domestic prices would not have exceeded import parity in the absence of import in any year except 2008 /09. Under a reasonable assumption about price responsiveness, we argue that the government would have saved a substantial amount of foreign exchange by procuring locally. Table 5 presents the estimates.

Table 5: Potential Foreign Exchange Savings due to Local Procurement of Wheat

Year	C.I.F (Djibouti) price of wheat (US\$ / ton)			Wheat import (million tons)	Foreign exchange savings (million US\$)		
	South Africa	US-Gulf	India		South Africa	US-Gulf	India
2007	453	357	393	0.20	90	71	78
2008	523	434	393	0.82	--	--	--
2009	379	325	384	0.80	--	--	--
2010	421	332	438	0.89	373	294	389
2011	507	420	426	0.60	305	253	256
2012	471	417	424	0.51	241	214	217
2013	448	412	472	0.80	359	330	377

Source: Authors' calculations based FAOStat, UN-COMTRADE, and WFP data

In order to determine the most competitive import sources, we considered the FOB prices of wheat from three main wheat exporting countries—the USA, South Africa, and India—and then added the freight and insurance costs to determine c.i.f. (Djibouti) price. Since imports were needed in 2008 and 2009, foreign exchange savings were only possible from 2010-13. In addition, our calculations suggest that the USA had the most competitive prices, and hence, foreign exchange savings are relevant only for the USA-gulf (highlighted column). Given these calculations, and underlying assumptions, we conclude that the government could have saved between US\$214 million in 2012 to US\$330 million in 2013 by sourcing its wheat demand from the domestic markets. However, we also note that procuring from local markets would have resulted in higher domestic prices (but not higher than import parity), which would have hurt consumers but would have provided better incentives for farmers to grow wheat.

5. Summary and Implications

The objective of this paper is to analyze the rationales and cost-effectiveness of public wheat imports to Ethiopia. We have presented evidence about the context in which the country re-

instituted public interventions in wheat markets, reviewed international best practices on the rationales and rules for food price stabilization, and analyzed a large amount of data to assess the cost effectiveness of wheat imports. We would like to emphasize that the analysis of cost-effectiveness is based on a partial equilibrium approach with some strong assumptions. Therefore, more refined methods may be needed to improve the precision of our calculations. However, we are confident that these results can serve as a broad guideline for consultation between the ATA and other relevant agencies. The following are the key results from the analysis:

- 5.1.A review of literature on the rationales for public intervention in food grain markets suggest that public interventions are theoretically justified in the presence of market failures (inadequate infrastructure, incomplete markets for risk management, information asymmetry, etc.). However, these are only short-term **interventions—long-term solutions lie in addressing the root causes of market failures**
- 5.2. Even if public wheat imports are justified, policy action need to be guided by transparent rules on when and how these policy changes are triggered. The policy decision about public procurement can follow two simple rules: **(a) Import if domestic prices are expected to be higher than import parity, and (b) procure locally if domestic prices are expected to be lower than import parity.**
- 5.3. Given the rationales and policy rules, wheat imports by the EGTE were only justified in 2008 and 2009. **This conclusion remains valid under a variety of scenarios and assumptions about the price responsiveness, import costs, and the sources of imports.**
- 5.4. There appear to be discrepancies between the EGTE data and the data reported in the UN-COMTRADE and the FAOstat databases. According to UN-COMTRADE data, commercial imports averaged over one million metric tons in 2010 and 2011. Given domestic prices were below import parity in those years, and that the private sector had restricted access to foreign exchange, **it is puzzling that wheat was imported in the first place.** Further research is needed in this area.
- 5.5. Domestic prices would not have exceeded import parity in the absence of the EGTE's imports in any year except 2008 and 2009. This implies that **local procurement of wheat would have been justified** and provided better incentives for farmers to grow wheat.
- 5.6. The Government could have saved a substantial amount of foreign exchange by procuring wheat locally. Our results suggest that savings would have ranged from **US\$214 million in 2012 to US\$330 million in 2013.** This would have resulted in higher domestic prices (but below import parity) but encouraged farmers to adopt new technology and grow more wheat.

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Annex: Additional Tables and Charts

Appendix Table 1: Details break down of import transaction from Djibouti to Addis

Cost Components	2012			2013		
	Birr/MT	\$US/MT	% Share of TC	Birr/Mt	\$US/Mt	% Share of TC
CIF Djibouti price /metric tons	6852.6	369.8	--	5,641.6	290.1	--
Total transactions costs / metric ton	2,016	108.8	100.0	2,137.6	109.9	100.0
Clearing & forwarding	445	24.0	22.1	460.1	23.7	21.5
Demurrage (2% of purchase price)	137	7.4	6.8	56.4	2.9	2.6
Insurance	3	0.2	0.2	3.1	0.2	0.1
Bank charge	112	6.0	5.6	112.0	5.8	5.2
Interest (9.5% of purchase price)	325	17.6	16.1	535.9	27.6	25.1
Transport cost (Djibouti to Addis)	900	48.6	44.6	890.0	45.8	41.6
Loading / unloading charge (labor)	40	2.2	2.0	40.0	2.1	1.9
Miscellaneous expense	54	2.9	2.7	40.0	2.1	1.9
Landed costs in Addis Ababa	8,869	479	--	7,779	400	--

Source: Calculation based on EGTE data

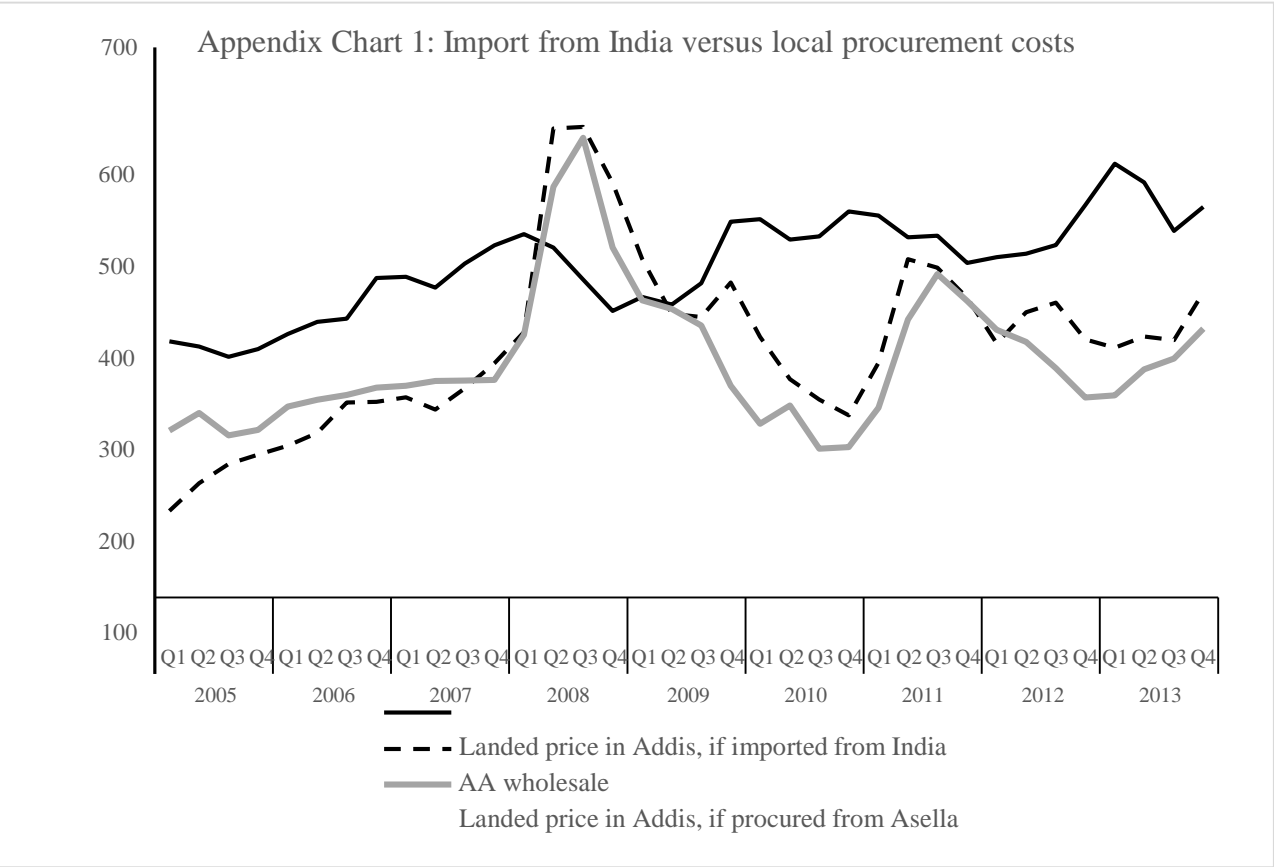
Appendix Table 2: Wheat imports as shares of production and marketed volumes, 2007-2013.

Year	Cereal Production	Wheat Production	Commercial Wheat Imports	Wheat Import as % of total	
				Production	Marketed
	(.....in Million metric tons.....)				
2007	12.87	2.46	0.20	8.1	40.7
2008	9.01	2.31	1.28	55.4	277.1
2009	14.5	2.54	0.99	39.0	194.9
2010	15.53	3.08	1.15	37.3	186.7
2011	17.76	2.86	1.09	38.1	190.6
2012	19.15	3.18	0.88	27.7	138.4
2013	19.65	3.43	0.86	25.1	125.4
2014	22.70	4.04	--	--	--

Source: Production from CSA, commercial imports from UN-COMTRADE, market volume is assumed to be 20 percent.

Appendix Table 3: Estimated forex saving from domestic procurement

Year	Import vol. (mil tons)	Forex savings if imported from:		
		USA	S. Africa	India
2007	0.2	36.19	52.42	38.71
2008	1.28	-299.49	-204.49	-382.52
2009	0.99	-69.15	-30.93	-34.49
2010	1.15	146.28	210.94	220.97
2011	1.09	165.40	260.73	126.64
2012	0.88	177.83	225.31	146.57
2013	0.8	135.91	164.88	150.17



Appendix Chart-2: Import from South Africa versus Local Procurement Costs

