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RESEARCH ARTICLE

THE EFFECTS OF TRADE LIBERALISATION ON THE WHEAT-FLOUR-BREAD VALUE CHAIN IN LESOTHO

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ABSTRACT

The paper examined the impact of trade liberalization and deregulation on the wheat-flour-bread value chain and specifically the impact on the industry and poverty via three channels namely: price transmission; enterprises (employment and profits); and the government's fiscal position. The industry is very sensitive to exchange rates and international prices given that Lesotho is a net importer of wheat. The impact has been negative for local producers (commercial and emerging). While substantial employment losses occurred in the primary wheat producing areas, gains were experienced elsewhere in the value chain. Prices for both white and brown bread have been increasing despite decreases in wheat prices in real terms. This is significant as bread forms an increasingly important component in the poor consumers' basket. Price transmission has generally been inefficient and consumers have not benefited from the liberalization process in the current environment of subsidized world prices. The bakers and retailers have benefited most from the policy change. Mechanisms that curb disproportionately high prices by some players should be devised and put in place but if they already exist their enforcement and efficiency as well as compliance in the value chain should be considered.

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INTRODUCTION

Wheat is a staple food in Lesotho and is the most important crop after maize. It contributes around 15% of the gross value of crops and its annual value was estimated at 60 million (Food and Agricultural Organisation, 2013). Wheat production has ranged from 2 411 metric tonnes to 20, 065 metric tonnes over the years 2007/8 to 2010/11(Central Bank of Lesotho, 2012). Annual consumptions is in the region of 88 000 metric tonnes per annum which is second only to maize at around 140 000 metric tonnes (Index Mundi, 2014). National bread consumption is estimated at around 22 400 000 loaves per annum. Food accounts for a major portion of the expenditure of the poor and that grain, and more specifically wheat products, form an important component of their total food expenditure (Ministry of Agriculture and Food Security, 2003). Lesotho is a net importer of wheat and has a self sufficiency index of about 50%. This means that demand is often greater than supply and that the shortfall must be imported. The bulk of wheat imports are purchased from South Africa. Wheat is mainly produced for human consumption in Lesotho and there is a fairly direct value chain from producer to consumer. There are a range of players such as input suppliers and the animal feeds industries that are involved in the chain (Lesotho Government, 2008; MAFS, 2003). For the purpose of this study the essence of the value chain runs from the producer to the millers to the bakers to the retail sector and on to the final consumers. With respect to the internal market, the only formal market channel for farmers in Lesotho is that of commercial millers located in the lowlands. The main industrial milling company is the Lesotho Flour Mills (49 percent government owned) with one plant in Maseru and the other located in Maputsoe. There are few hammer mills that buy local grains immediately after harvest during good years. The produce is then stored to be milled and sold during the December-February period when the demand is high, as many households will have exhausted their own stocks. However, the majority of hammer millers only provide a service where villagers mill their grain crops for home consumption (FAO, 2007).

During 1996, the government of Lesotho announced its intention to move away from an agricultural strategy aimed at attaining food self sufficiency towards food security. It has been argued that a key area of policy reform necessary to implement this new strategy successfully includes the deregulation of the main agricultural output and input markets.

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These were characterised by considerable government intervention in the form of price fixing and trade protection granted to agricultural parastatals (Van Schalkwyk, Van Zyl, Botha and Bayley, 1997). Until 1996, the marketing of wheat in Lesotho was primarily governed by the 1967 Agricultural Marketing Act, the 1979 Marketing Amendments Act and various legal notices. The 1967 Marketing Act empowered the Minister of Agriculture to gazette regulations and intervene in the domestic markets of wheat. There was control of imports and prices (MAFS, 2003).

Prices were controlled by the government at three levels of the marketing chain from the whole grain to milled products. Provided they met minimum quality standards, large mills were obliged to accept, and pay the gazetted price for wheat delivered to them by Lesotho Producers. There was no effective control of prices at which the large scale mills sold from their depots in the districts, of the selling prices of the small scale roller mills or of wholesale and retail prices. Prices were gazetted at the start of the marketing year. All gazetted prices were pan-seasonal and territorial (Van Schalkwyk *et al.*, 1997).

In the current deregulated market the producer price of wheat and bread is determined through the South African Futures Exchange (SAFEX) (MAFS, 2003). According to Hobson (2006), this means that grain producers, traders and processors now trade in a 'free' market and must respond to worldwide supply and demand forces in setting prices, trade agreements, exchange rate fluctuations, changes in living standards and technology. Given that Lesotho is a relatively small player on the world wheat market, and is net importer of wheat, the producers are subjected to global pricing pressures, and generally follow the import/export parity calculations to determine prices. There is, for example little incentive for wheat millers to pay Basotho producers more than what they can import wheat for (including the cost of transport, insurance, the tariff and the exchange rate). This is called an *import parity price* and effectively becomes the maximum producer price. It was decided by the International Trade Administration Commission of South Africa (ITAC) that the import duty on wheat be calculated as the difference between the domestic reference price for wheat and the world reference price, where the domestic reference price was the long-term average US No.2 Hard Red Wheat (ord) Gulf price calculated as $157 per tonnne and the world reference price was the 3-week moving average US No.2 Hard Red Wheat (ord) Gulf price for wheat as published in the IWC Grain Market Report (ITAC, 2009).

The major world wheat producing countries or regions are the USA, Canada, EU, Russia, Australia, Eastern Europe, Argentina, India and China, with some 60% produced in four regions, namely China (18.9%), the EU (17.7%), the USA (11.8%) and India (11.2%). Although wheat is grown in a number of Southern African Development Community (SADC) countries, it is only South Africa and Zimbabwe that grow wheat on a meaningful scale. The SADC region is therefore a net importer of wheat (FAO, 2007). According to Hobson (2006), it is now common cause that developing countries in general, and their agricultural sectors specifically, face a very unfair and hostile international trade regime. Most developed countries employ a combination of high agricultural import tariffs, enormous export subsidies and other support to their agricultural sectors. Domestic agricultural support in OECD countries amounts to more than US $ 300 billion per year. The EU and USA are responsible for 84% and 13 % respectively of the total OECD wheat subsidy. According to Table 1, Producer Price Estimates (PSEs) figures which are indicators of the annual monetary value paid to producers by consumers and taxpayers, measured at the farm gate level, are highest for most of major wheat producing countries (Bureau for Food and Agricultural Policy Research (BFAP), 2005). All the major wheat producing countries recorded negative net margins before government assistance was taken into account. It is this situation that led to the study seeking to determine the impact of trade liberalization on the wheat-flour-bread value chain in Lesotho.

MATERIALS AND METHODS

The study was undertaken in Lesotho, a small landlocked country found in Southern Africa. It is surrounded by the Republic of South Africa. It has agriculture as its main industry based on livestock production. The study area was Maseru which is the national and commercial capital of the country. The area has retail sector as its main industry with the formal trading as one of the main contributors to gross domestic product (GDP). Informal and formal personal interviews were used to collect data from selected state institutions such as Central Bank of Lesotho, Bureau of Statistics, Department of Trade, Commerce, Industry and Marketing, Private Sector (Agribusiness) and Farmers. Semi-structured questionnaires were used to guide the interviews and facilitated the recording of data. The impact of trade liberalization and deregulation on the wheat to bread value chain was examined via the McCulloch, Winters and Cirera (2001) framework which identifies three channels of influence through which trade liberalization affects poverty including Price Transmission; as trade liberalization affects the prices of goods consumed and produced by the poor. Enterprises; as trade liberalization affects households through its impact on employment, wages and profits, and Taxes and State Spending; as trade liberalization affects the government's fiscal position. The assessment and appropriate conclusions were made in terms of the net effect of trade liberalization and deregulation in the value chain.

RESULTS AND DISCUSSION

The section assesses the impact of trade liberalization on the wheat to bread value chain via the three channels through which trade liberalization affects poverty namely price transmission, enterprises and government spending.

Distribution Channel (Price Transmission)

An efficient price transmission system will support policy and result in a fair proportion of the gain from trade being passed through to poor consumers while an inefficient price transmission system will result in a disproportionate share of the gain from trade being captured by players in the value chain (Hobson, 2006).

Table 1. Analysis of government support for wheat farming

	Australia	Canada	EU	USA
Producer Support Estimates (PSEs)				
A. Market price support	0	105	114	0
B. Payments based on output	0	11	0	48
C. Payments based on area planted/animal numbers	1	75	4219	244
D. Payments based on historical entitlements	0	37	16	405
E. Payments based on input use	26	30	321	95
F. Payments based on input constraints	0	0	373	40
G. Payments based on overall farming income	9	69	0	33
H. Miscellaneous payments	0	16	-5	0
Total PSE (R/ha)	36	342	5136	867

Source: BFAP, 2005

Before examining the effectiveness of price transmission and the pass through of price benefits, the price formation mechanism of SAFEX should be looked into and understood (refer to section on introduction) and the understanding of the important role of exchange rate and "transport differential" in the pricing of wheat should be looked at. Many studies including Hobson (2006) and Winter Cereal Trust (2004) indicated that exchange rate is a major driver of the price of wheat. Strong correlation between the producer price of wheat and the exchange rate was found to exist. It was discovered that as the exchange rate appreciates the producer price goes down and vice versa, thus exchange rate is clearly a major driver although other factors such as heavily subsidized international wheat prices also play a role. In terms of the transport differential it must be noted that the price quoted on SAFEX is a reference price and is quoted in relation to a reference point, in this case, Randfontein (BFAP, 2005; National Agricultural Marketing Council (NAMC), 2013).

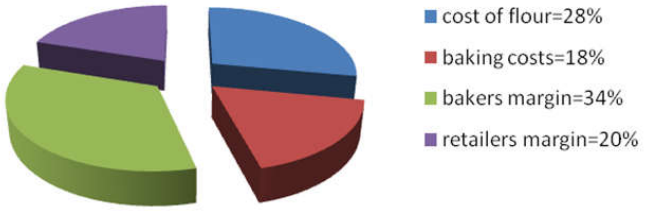

Figure 1. Share in the cost of white bread

According to Hobson (2006), the price of wheat is adjusted in different markets to account of the differences in transport costs. In order to adjust all prices to the reference price, the international wheat FOB ('free on board') price has to be adjusted to take account all the costs incurred in bringing the wheat to South African shores (Durban). This price, called the cost of insurance and freight (CIF) price is adjusted into local currency using the current exchange rate. Once this is done all local Rand based costs (off-loading, losses, interest, local transport costs) can be added to result in a final (local) price per tonnne at the reference point NAMC, 2013).

The bakers' margin has the largest share in the retail price of white bread as it accounts for 34%, it is followed by cost of flour at 28% of the retail price, and retailers' margin follows at 20% while baking costs account for 18% (Figure 1 & Table 2).

With regard to brown bread retail price the same trend is observed as bakers' margin accounts for 34% followed by cost of flour at 27%. They are followed by retailers' margin of 20% then baking costs at 19% (Figure 2 & Table 3).

Total costs of production account for less than half of the retail price while more than half of the retail price result from the both bakers and retailers' margin. In terms of price transmission up the value chain it is recognized that changes in farm and wholesale prices are not evenly transmitted to consumer prices. A common feature here is that bakeries and retailers may quickly pass on price increases while price decreases have a longer log and/or not fully passed on to the benefit of the consumer.

Table 2. White bread supply chain (average Jan 2012-Dec 2013)

Wheat average producer price lagged 4 months	M/ton	3140
Mill door price	M/ton of grain	3240
Milling costs	M/ton of grain	1134
Cost of flour per loaf	Cents/loaf	240
Baking costs per loaf	Cents/loaf	151
Cost of producing white bread	Cents/loaf	391
Bakers margin	Cents/loaf	289
Wholesale price	Cents/loaf	680
Retailers margin	Cents/loaf	170
Retail price	Cents/loaf	850

Source: Bakeries Association, 2014 and National Agricultural Marketing Council, 2013.

Table 3. Brown bread supply chain (average Jan 2012-Dec 2013)

Wheat average producer price lagged 4 months	M/ton	3140
Mill door price	M/ton of grain	3240
Milling costs	M/ton of grain	1134
Cost of flour per loaf	Cents/loaf	210
Baking costs per loaf	Cents/loaf	151
Cost of producing brown bread	Cents/loaf	361
Bakers margin	Cents/loaf	269
Wholesale price	Cents/loaf	630
Retailers margin	Cents/loaf	160
Retail price	Cents/loaf	790

Source: Bakeries Association, 2014 and National Agricultural Marketing Council, 2013.

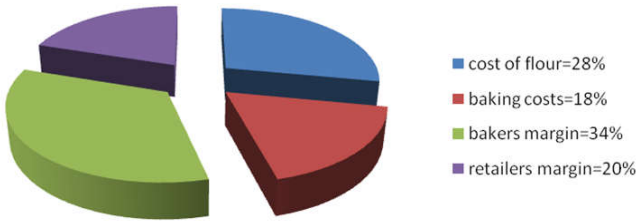

Figure 2. Share in the cost of brown bread

According to Hobson (2006), the BFAP 2005 study showed that although the milling industry has a concentration of marketing power, it does not exercise "abuse of power" principle. The time series model was used to estimate the impact of import tariffs on the retail price. It was discovered that because wheat price forms a relatively small percentage of the retail price a massive increase in tariffs on wheat results in slight increase in the consumer price. For example, an increase of say M 400.00 per ton of wheat (i.e. a 28.5% increase from

M 1400.00 to M 1800.00) may result in an increase of around 4.5% in bread retail prices. However, it is clear that some players in Lesotho's wheat flour bread value chain get superior profits despite the price transmission mechanism's effectiveness and the poor people who were supposed to get the benefits of trade liberalization continue to experience high food prices. It is argued that trade liberalization hence the availability of cheap wheat and flour imports has greatly benefited the bakers and retailers as they are the ones who get more of the consumers' share.

Table 4. Wheat production in the agricultural years 1998 to 2013

	1998	2003	2008	2013
Area planted (ha)	32 508	31 300	30 800	29 813
Area harvested (ha)	31 032	29 000	27 142	26 894
Production tonnes	6 900	5 724	5 012	3101
Yield kg per ha	160	136	104	100

Source: Bureau of Statistics, 2013

Enterprise Channel (wages and employment)

Changes to the trade regime affect the profitability (negatively or positively) of businesses throughout the value chain. In this section specific attention will be paid to the impact of trade liberalization on producers, millers and bakers and the related knock on effect in terms of employment and wages.

Producer Level

According to the MAFS (2003), there has been slight improvement in the productivity of wheat farming units which could be attributed partly to the innovative move to "conservation tillage". However, table 4 shows that the area planted has decreased since 1998 and the production levels have decreased alarmingly with the national total production reaching the low of 3 101 tonnes in the year 2013. The population of wheat farmers has also decreased even in the traditionally main wheat producing areas and most of the farmers that left wheat farming cited lack of buyers as the main reason (Molebatsi, 2013). This is reflected in the statement of one of the farmers that "we grow wheat but we don't know where to sell it because the buyers want to buy at very low prices that don't even meet the production costs so there is no use to grow wheat". It could be argued that this scenario is the result of the availability of cheap wheat imports which allows millers to import at a price lower than the Lesotho cost of production. Labour trends are very difficult to quantify accurately but it is certain that substantial labour shedding occurred as a result due to the decrease in area planted, production and population engaging in wheat farming.

Milling

There are two large and commercial milling plants and they are operated by Lesotho Flour Mills which is co-owned by Lesotho government and private businesses. The miller obtains most of wheat from the South African farmers because they sell at a relatively very low price. According to Leche (2013), the company's production costs are low as a result of the free importation of wheat since deregulation of the market. It is argued that the low input costs are likely to have resulted in high profit margins for this miller which indicates that trade liberalization has positively affected the large miller. There are a large number of small millers found across the country and they process small amounts of wheat. The core business of these small millers is to provide milling services to farmers in order to have meal for the both animals and family consumption.

These millers rarely buy wheat from farmers in order to process it then sell to the retailers (MAFS, 2003). Lately, the small millers have been realizing very poor returns as a result of the decline of cereal production in the past few years (Osborne, 2011). There were about 80 small millers in the country before the year 2000 but in 2009 the number had declined to less than 50 (Molebatsi, 2013). It is argued that the decline in wheat production due to high production costs and availability of cheap wheat and wheat flour imports has driven more small millers out of business. It is also certain that substantial job losses occurred as a result of this situation in the country.

Baking

According to MTICM (2011), before 1996, there were about two baking units in the country and all of them were wholesale bakeries. The baking units were located in the national capital Maseru. They distributed and supplied products to all traders, retailers and wholesalers across the country. There has been an increase in the number of baking units in the country. Currently there are various types of baking units including wholesale bakeries, independent bakers, franchise bakers and in-store corporate bakeries. The number of baking units is estimated at 25 throughout the country. About 10% is made of wholesale bakeries, 35% is franchise and in-store bakeries while independent bakeries account for the remaining 55%.

Based on the increase in the number of new business entries, it is argued in the paper that though detailed employment figures are not available, it is highly likely that employment creation occurred and substantial numbers of both skilled and semi-skilled labour have been absorbed. This is supported by Mabatla (2013) when stating that "these bakeries have employed a lot of people though we do not have exact figures". Central Bank of Lesotho (2013) indicated that the number of people employed in the sector to be around 583.

Government Channel (taxes and government expenditure)

There are institutions that support the industry including the Lesotho National Development Corporation, Private Sector Competitiveness Project and Chamber of Business among others. However, there has been a sharp decline in the government support to the industry (MTICM, 2011). According to Central Bank of Lesotho (2013), substantial revenue is accumulated from tariffs on both wheat and wheat products. Again, the Bureau of Statistics (2008) indicated that revenue accruing to the government from the wheat-flour-bread chain increased substantially. The industry contributes around M 321 000 000 towards gross domestic product (GDP). Although the figures were not ready at the time of investigation, the Lesotho Revenue Authority through its officials indicated that millions of Maluti are collected in taxes from the wheat-flour-bread value chain. It is argued that the

wheat-flour-bread value chain has positively contributed to the government accounts through tariffs and other taxes.

Conclusion

The policy of trade liberalization has had mixed results in terms of impact on the wheat-flour-bread value chain in Lesotho. In terms of the three channels through which trade liberalization affects poverty different role players have been affected in various ways. Local wheat producers generally have been made worse off due to the decrease in protection, increased competition from inputs as well as decreasing real prices of wheat. The large miller Lesotho Flour Mills has benefited greatly due to access to cheap wheat imports hence reduced costs of inputs. However, the small millers whose main business is the provision of milling services to local people have been negatively affected as many went out of business due to decreased wheat production in the country resultant from trade liberalization.

Trade liberalization has had most positive impact in the baking sector as there has been massive increase in the number of baking plants in the country. This is the only sector that has recorded increases in employment opportunities. In terms of employment, there have been massive job losses in the wheat production sector and milling sector particularly small milling sector which has cancelled the jobs created in the baking sector. The price benefits have not been passed down through the chain as some players in the value chain technically or manipulatively get huge profits. The policy of trade liberalization has mostly benefited the bakers and retailers as they get the biggest share of consumer price as their margins far exceed production costs. In conclusion, trade liberalization has not benefited the consumers as they continue to pay high prices for bread despite the policy's conspicuous impact of reduced wheat and flour prices.

Despite the policy failure to positively affect the poor Basotho consumers there has been considerable impact on the part of Lesotho government accounts as substantial revenue has been accumulated in the form of tariffs and other taxes. This has been confirmed by the Central Bank of Lesotho and Lesotho Revenue Authority. It is recommended that Lesotho government together with other stakeholders devise and put in place mechanisms that will ensure that disproportionately high prices are not charged by some players in the wheat-flour-bread value chain. If such mechanisms already exist massive effort should be applied to improve their enforcement and efficiency and compliance in the value chain in order to ensure that poor Basotho consumers benefit from trade liberalization since poor consumers are the main target beneficiaries of trade liberalization policies and the main reason Lesotho is a signatory to various trade agreements, treaties and conventions.

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