Macroeconomic impact assessment of a reduction in the grain import levy in Namibia

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1 Introduction & purpose of the study

The background to this study relates to a request by the Namibian Grain Processors' Association to lower the grain import levy for white maize from its current level of 5% to 1.4%. The primary reason for the above request is related to the drought that was experienced in many parts of sub-Saharan Africa over the past agricultural season, which led to lower domestic crops and a substantially higher demand for imports.

The key objective of the study may be formulated as follows:

Key objective of the study:
To determine the full macroeconomic impact on Namibia of a reduction in the import duty on white maize from 5% to 1.4%

The key focus of the economic impact assessment (EIA) will be to quantify the anticipated effect of a lower grain import levy on the following:

- Gross domestic product - GDP (the net effect of increased household expenditure less the effect of a lower level of fiscal affordability of public services)
- Employment creation (formal and informal)
- Taxation revenues

Input/output (I/O) relationships between economic sectors and variables were utilised as basis for the study, supplemented by other standard techniques for economic modelling (drawn from a literature study). It should be noted that the analysis relating to lower government revenues is fairly complex, as state intervention in the economy via taxation involves the distortion of resource flows and, in the case of a selective commodity tax, distorts the functioning of the market price mechanism (through changes to relative prices).

These effects give rise, *inter alia,* to the concepts of excess burden of taxation and the marginal welfare cost to society of public sector inefficiencies. The negative impact resulting from a decline in government's taxation revenues therefore requires an appropriate adjustment factor, which is duly determined and incorporated into the net macroeconomic impact assessment.

The quantitative analysis is supplemented by an indication of the impact on the competitiveness of the Namibian economy of a grain import levy reduction, especially as it relates to the export potential of value added products & the issue of food security.

2 Adjustment for the degree of self-financing (DSF)

The quantification of various economic benefits associated with an increase in aggregate demand in the economy via input/output table analysis should be adjusted for an additional positive causality flowing from any decline in a marginal tax rate.

Although this concept (which is, to some extent, the excess burden of taxation in reverse) represents a fairly recent area of economic research, an illuminating study by Sorensen (2011), provided an attempt to develop empirically implementable formulae for the marginal deadweight losses (excess burden) from all of the main tax categories.

This study captured the tax interactions between the markets for goods, labour and capital. It also utilised the correspondence between the marginal deadweight loss from a tax and the change in net public revenue caused by the behavioural responses to the tax.

Sorensen's deadweight loss formulae thus allow an estimate of the so-called "degree of self-financing" (DSF) associated with a cut in some tax rate. The DSF is the fraction of the initial revenue lost which is recouped as economic activity responds positively to the tax cut, once all tax interaction effects are accounted for.

In policy making circles the DSF is often used to rank the efficiency gains from cuts in the different types of taxes, so a greater understanding of the extent of deadweight loss which is tied directly to the DSF should assist such rankings.

In effect, Sorensen's study allows for an extension of the methodology used with input/output table analysis, as it considers the positive macroeconomic effects emanating from a marginal tax rate reduction.

The relevant model was for Sweden, which is classified as a small, open economy and the conclusion with regard to a cut in the consumption tax rate (equivalent to a commodity tax) was a DSF of 22%.

Due to the difference in *per capita* incomes between Sweden & Namibia, the substantially larger tax base in Sweden and the realistic assumption that economic activity in Sweden is more responsive to marginal tax changes than in Namibia, this figure is adjusted downward by 50% (for the purposes of the macroeconomic impact assessment).

This yields a value of 11% for the DSF, which will be applied to the results of the positive macroeconomic impacts arising from increased household consumption expenditure (due to higher levels of disposable income of households induced by the lower commodity tax rate).

3 Assessment of the positive macroeconomic impact via input/output tables

3.1 The GDP impact

An input/output (I/O) model of national accounts data for South Africa has been used as a proxy for Namibia to determine the impact of the increase in demand on key economic variables (resulting from the existence of forward and backward linkages). The increase in demand is due to the higher level of household consumption expenditure that will necessarily follow a reduction in the price of maize meal (*ceteris paribus).* The steps utilised are depicted in table 1.

Table 1: Methodology and steps utilised for determining the impact on Namibia's GDP arising from a reduction of the grain import levy (from 5% to 1.4%)

Step	Methodology
1	Determination of the increase in aggregate demand in the economy arising from the lower grain levy. This was done by applying the reduction in the tax rate (3.6%) to the maize imports for the 2015/16 financial year (120,659 tonnes – NAB data). The average price for delivery at Otavi and Windhoek for June & July 2016 was used as basis for the value calculation (N$ 5,716). This yielded a value of N$ 24.83 million, which represents the proxy for increased household expenditures (aggregate demand) in the economy.
2	Identification of the relevant economic sectors that would necessarily benefit from increased expenditures (see table 2). The composition of household expenditure in Namibia, as published in the latest *Namibia Household Expenditure and Income Survey* was utilised for the initial classification of sector-specific expenditures.
3	The weighting utilised in the calculation of South Africa's consumer price index (CPI) was then utilised to inform a more detailed sector-specific classification of household expenditures
4	Sector-specific economic output multipliers (utilising South Africa's national accounts input/output tables as a proxy) were then applied to the data above, in order to determine the total impact on GDP in the Namibian economy of expenditures relating to increased aggregate demand. Three different effects on GDP were quantified, namely the direct, indirect and induced effect.
5	The results obtained in step no. 4 were then adjusted to accommodate the so-called DSF effect (discussed in the previous section), yielding a total GDP impact of **N$ 86.1 million** (see table 2)

Table 2 provides data relating to the classification of the sectors that will experience an increase in demand as a result of higher levels of household expenditure, as well as the quantification of the impact on GDP (as explained in table 1).

As indicated in table 2, the method of analysis distinguishes between the *direct* impact of the increased output on the sector itself, the *indirect* impact on upstream and downstream industries, and the *induced* impact on the broader economy arising from the rise in household incomes.

Due to wide-ranging differences in the nature and composition of sector-specific supply-chains in the economy, multiplier effects also differ considerably from one sector to another. It is therefore necessary to classify the sectors that benefit from increased demand in detail.

Table 2: Impact on the GDP of Namibia of a reduction of 3.6% in the grain import levy

	Impact (N$m)			
Sector	**Direct**	**Indirect**	**Induced**	**Total**
Food	8.09	2.86	5.70	16.65
Beverages	2.74	0.87	2.14	5.75
Tobacco	0.53	0.20	0.35	1.08
Household textiles	0.80	0.28	0.52	1.60
Clothing	1.64	0.54	1.42	3.60
Footwear	0.78	0.30	0.55	1.64
Recreation & culture	1.33	0.48	1.14	2.94
Petrol & diesel	2.08	0.40	0.94	3.42
Household appliances	0.53	0.16	0.38	1.06
Transport	4.25	1.38	2.33	7.96
Electricity & fuel	1.51	0.30	1.29	3.11
Water	1.15	0.41	0.79	2.35
Restaurants & hotels	1.06	0.30	0.88	2.24
Communication	1.01	0.29	0.68	1.98
Financial services	0.34	0.06	0.36	0.76
Insurance	2.80	0.53	2.93	6.27
Rent & equivalent rent	5.67	1.08	5.93	12.68
House maintenance	0.49	0.12	0.40	1.01
Health	0.68	0.18	0.57	1.43
Education	1.17	0.31	0.97	2.45
Household services	1.46	0.37	1.19	3.03
Household supplies	0.29	0.05	0.45	0.79
Personal care	0.69	0.18	0.56	1.43
Other	0.34	0.06	0.52	0.92
Totals	**41.443**	**11.729**	**32.976**	**86.148**

3.2 The employment impact

Employment in Namibia will also increase as a result of the higher level of household consumption expenditure (that will necessarily follow a reduction in the price of maize meal - *ceteris paribus).*

The employment impact involves both formal and informal employment and the steps utilised to determine the higher level of employment are depicted in table 3.

Table 3: Methodology and steps utilised for determining the impact on employment in Namibia arising from a reduction of the grain import levy (from 5% to 1.4%)

Step	Methodology
1	Classification of the increase in aggregate demand in the economy (arising from the lower grain levy) in terms of the relevant economic sectors and CPI weighting, as per the methodology described in steps 1 to 3 in table 1.
2	Sector-specific economic employment multipliers (utilising South Africa's national accounts input/output tables as a proxy) were then applied to the data above, in order to determine the impact on employment in the Namibian economy of expenditures relating to increased aggregate demand. Three different effects were quantified, namely the direct, indirect and induced effect.
3	The results obtained in step no. 2 were then adjusted to accommodate the so-called DSF effect (discussed in the previous section), yielding the following total employment impact: • Formal employment – **132 jobs** • Informal employment – **33 jobs**

3.3 The taxation impact

A higher level of GDP, combined with the creation of more jobs, invariably translates into higher levels of taxation revenue for government and this impact has also been quantified on the basis of input/output table methodology.

The taxation impact involves the three major categories of fiscal revenue, namely personal income tax, company tax and indirect taxes (mainly value added tax, excise duties and customs duties). The steps utilised to determine the increase in taxation are depicted in table 4, whilst table 5 provides more detail on the different effects giving rise to larger taxation revenues.

Table 4: Methodology and steps utilised for determining the impact on taxation revenues in Namibia arising from a reduction of the grain import levy (from 5% to 1.4%)	
Step	**Methodology**
1	Classification of the increase in aggregate demand in the economy (arising from the lower grain levy) in terms of the relevant economic sectors and CPI weighting, as per the methodology describer in steps 1 to 3 in table 1.
2	Sector-specific economic taxation revenue multipliers (utilising South Africa's national accounts input/output tables as a proxy) were then applied to the data above, in order to determine the impact on fiscal revenues in the Namibian economy of expenditures relating to increased aggregate demand. Three different effects were quantified, namely the direct, indirect and induced effect.
3	The results obtained in step no. 2 were then adjusted to accommodate the so-called DSF effect (discussed in the previous section), yielding a total positive taxation impact of **N$ 11.3 million**

Table 5: Impact on tax revenues in Namibia of a reduction of 3.6% in the grain import levy

	Impact (N$m)			
Tax type	**Direct**	**Indirect**	**Induced**	**Total**
Personal income tax	1.49	0.41	1.12	3.02
Company tax	1.17	0.39	1.09	2.65
Indirect taxes	2.79	0.64	2.17	5.60
Totals	**5.45**	**1.44**	**4.38**	**11.27**

4 The impact of excess burden

Taxation of activity in the market economy represents the largest source of revenue raised by the Namibian government. This includes taxes on labour, profits and products, with the latter dominated by value added tax, excise duties and customs duties.

Taxes are obviously necessary in order to finance a range of government expenditures that benefit society at large, particularly in the spheres of public health, education, infrastructure creation & maintenance end preserving law & order. Unfortunately, however, taxes on products (such as an import duty) lower the value of transactions to both buyers and sellers, in that, to a varying extent, the buyer pays more for the product and the supplier receives less.

A multitude of empirical case studies have proven that the loss of value to the economy resulting from a commodity tax is greater than the fiscal gain to the tax authorities. Therefore, the economy as a whole loses some value from commodity taxation, and this loss is referred to as the deadweight loss of taxation (also termed the excess burden of taxation).

The deadweight loss emanates from various sources:

- Reduced consumption expenditure by households
- Economic inefficiencies as a result of the distortion of relative prices (when a particular product is taxed, but others not)
- Declines in international competitiveness caused by the higher price level of taxed products, which also filters down to the supply chain of the particular taxed commodities
- Inefficiencies arising from the costs of taxation collection (which do not add value to the economy)
- Inefficiencies that may exist in the provision of government services (financed by the taxes)

A numerical example of the deadweight loss of a commodity tax is useful in illustrating its negative impact on a country's GDP (productive output). Assume that customers are willing to buy 20 units of a good at $5 but only 15 units of a good at $6. In the absence of a tax, the total value of production is $100.

In the event of the government imposing a tax of 20% on the product, the equilibrium price increases to $6. In this case, customers will only buy 15 units, and the total amount collected by the producer/seller and the government's tax authorities will amount to $90.

The deadweight loss is equal to the difference between the two situations divided by two. So in this example, the deadweight loss is $5. The formula implicitly takes into account the fact that some portion of the taxation revenues will translate into value added in the economy (via the financing of public service provision).

It is fairly obvious that the price elasticity of a particular product's demand and supply plays an important role in the determination of excess burden. Andreyeva *et. al.* (2010) reviewed 160 US studies on the price elasticity of demand for major food categories (between 1938 & 2007) to assess mean elasticity values by food category. Price elasticity values for foods and non-alcoholic beverages ranged from 0.27 to 0.81 (absolute values), with food away from home, soft drinks, juice, and meats being most responsive to price changes (0.7–0.8).

The results of their analysis are presented in table 6. These elasticity values are consistent with various other research studies, including that of income and price elasticity values for food in India by Kumar *et. al.* (2011).

Table 6: Estimates of the mean price elasticity of demand by selected food category - US

Category	Value
Food away from home	0.81
Beef	0.75
Pork	0.72
Fruit	0.70
Poultry	0.68
Dairy	0.65
Cereals	0.60
Vegetables	0.58
Sweets/sugars	0.34

Source: *Andreyeva, et. al. (2010)*

The purpose of determining a representative measure to quantify the excess burden of taxation is to determine the extent to which the fiscal impact of the grain levy reduction needs to be adjusted (due to a lower excess burden).

Table 7: Methodology and steps utilised for determining the impact of a lower level of excess burden arising from a reduction of the grain import levy

Step	Methodology
1	Determination of the price elasticity of demand for cereals (as a proxy for maize products). Several research studies were reviewed for this purpose and the relevant elasticity for cereals contained in the analysis of Andreyeva et. al (2010) was employed (a value of 0.6)
2	Postulation of the formula for calculating the excess burden of a commodity tax, which is 50% of the tax rate multiplied by the difference in quantity arising from the tax
3	Calculation of the excess burden of the existing grain import levy of 5%, yielding a value of N$2.93 million
4	Calculation of the excess burden of the proposed lower grain import levy of 1.4%, yielding a value of N$ 0.82 million
5	The difference between these two values provides the net macroeconomic benefit to Namibia, represented by the fact that a lower excess burden will exist in the event of the tax being lowered. This benefit is **N$ 2.11 million**

Table 7 provides the steps and methodologies employed for the calculation of the positive macroeconomic impact arising from the lower excess burden.

5 Input cost inefficiencies of public services

Grigoli & Ley (2012) have analysed the value of government services in 24 European Union member states via their input costs, adjusted for productive inefficiency, thus eliminating from the GDP figures the wasted resources in obtaining a given level of output. Various research studies have been conducted on this topic, with the level of public sector inefficiency often referred to as the marginal welfare cost (MWC).

The argument by Grigoli and Ley is that differences in the quality of the public sector have an impact on the population's effective consumption and welfare and must be taken into account in comparisons of living standards.

In order to provide a basis for this adjustment, their research calculated the corrections of the input costs to account for productive inefficiency, thus purging from GDP the fraction of these inputs that is wasted. The study was based on public sector efficiency scores estimated in papers by Afonso *et. al.* (2010) and Evans *et. al.* (2000). The former study was based on data envelopment analysis and the latter on stochastic frontier methodology.

Grigoli & Ley concluded that the magnitude of the correction could be significant. When correcting for inefficiencies in the health and education sectors, the average loss for a set of 24 EU member states and emerging economies amounts to 4.1 percentage points of GDP.

Sector-specific averages for education and health for these countries imply that 32.6% and 65% of the inputs are wasted in the respective sectors.

Table 8: Technical efficiency scores for economic performance of selected East Asian countries (2000 - 2007)

	%
China	96.0
Singapore	88.8
Thailand	58.0
South Korea	57.5
Japan	53.0
Indonesia	35.7
Philippines	35.1
Malaysia	28.6

Source: *Chan & Karim (2012)*

In a research paper by Chan & Karim (2012), public spending efficiency and the effect of political and economic factors on such efficiency was analysed for selected East Asian countries. The authors utilised the so-called non-parametric data envelopment analysis (DEA) approach to estimate public spending efficiency scores. The results indicate the existence of relatively high levels of inefficiency in countries where political stability co-exists with freedom of speech, public sector accountability and civil liberties – hence a high level of efficiency in China, where none of the latter exists (see table 8).

In recognition of the scope and size of government expenditures and the major impact that changes in the efficiency of public spending can exert on a country's GDP, Hererra & Pang (2005) analysed this efficiency on a sample of 140 countries. Their study included several sub-Saharan African countries and was based on two techniques, including data envelopment analysis (DEA).

Both input-inefficiency (excess input consumption to achieve a level of output) and output-inefficiency (output shortfall for a given level of inputs) were scored, using data from 1996 to 2002. The results of selected African countries are presented in table 9.

Table 9: Efficiency scores for education (learning scores) - selected countries

Country	% Input efficiency	% Output efficiency
Kenya	23.2	64.4
Mozambique	29.7	58.7
Tanzania	28.2	60.7
Uganda	31.5	57.0
Botswana	10.7	53.1
Ivory Coast	26.9	49.6
South Africa	14.9	48.2
Namibia	11.3	42.8
Lesotho	14.2	42.4
Zambia	29.5	42.1

Sources: *Crouch & Fasih (2004); Herrera & Pang (2005)*
Note: *Ranked by output efficiency*

The analysis for multiple inputs and multiple outputs in the sphere of public education expenditure revealed the lowest levels of efficiency for the sub-Saharan African region and the highest for South Asia.

Due to the fiscal policy dilemma arising from differences of opinion on dealing with the income effects of taxation used to finance spending on public goods, Anderson & Martin (2010) analysed this income effect in the US in more detail. Their model incorporated the benefits of

public goods to households and producers, based on a general multiple-output, multiple-input characterisation of public goods provision and taking full account of the government's financing options through packages of tax changes.

The relevant study concluded, *inter alia,* that the marginal welfare cost (MWC) of raising government taxation revenues are considerable and should, therefore, be taken into account within the broad framework of fiscal and taxation policy design. The study also found that a key advantage of using a compensated measure for calculating the marginal cost of funds is the ability to make comparisons across different countries.

The compensated measure gauges the actual transfer from outside the domestic economic system to the private sector that would have the same effect on welfare as provision of the public good.

When applying the methodology utilised in this study to other authoritative analyses of the MWC of taxation in the US, the existence of a significant degree of excess burden is apparent (see table 10).

Table 10: Estimates of the marginal welfare cost (MWC) of US income/labour taxes

Author/year	MWC (%)
Stuart (1984)	21.2
Ballard (1990)	19.7
Fullerton (1991)	25.0
Feldstein (1999)	57.0

Source: *Anderson & Martin (2010)*
Note: *Compensated measure*

As with the determination of the excess burden of taxation, the purpose of the above concise literature study on quantifying the level of inefficiency of public sector spending is to provide a basis for adjusting the fiscal effect of lower government revenues (due to the grain levy reduction) and, as an inference, lower levels of public spending.

For the purposes of this study, a representative level for the excess burden (or MWC) of taxation has been determined by calculating the average of the results of the studies by Chan & Karim (2012), Crouch & Fasih (2004), Herrera & Pang (2005), Grigoli & Ley (2012) and Feldstein (1999). With regard to the ratios contained in table 10, only the four democratic countries with comparable levels of *per capita* GDP to that of Namibia were included. The result of this average calculation is contained in table 11 and will be utilised for the adjustment of the negative fiscal impact of lower tax revenues (resulting from the grain levy reduction).

Table 11: Determination of a representative measure for the MWC of fiscal activity in Namibia

Source	MWC (%)
Chan & Karim (2012)	60.7
Crouch & Fasih (2004) and Herrera & Pang (2005)	78.0
Feldstein (1999)	57.0
Grigoli & Ley (2012)	48.8
Average	**61.1**

6 Quantifying the negative impact of reduced fiscal revenues

The considerable economic gains from a reduction of the grain import levy quantified in section three only portray one side of the proverbial coin. The other side is obviously represented by the fact that a lowering of a tax rate on commodities usually translates into lower government revenues (depending on the price and income elasticity values at play).

For purposes of assessing the negative impact of lower tax revenues, the same basis for analysis as that determined for the equivalent higher level of household consumption expenditure is utilised (as described in step 1 of table 1).

The results are depicted in table 12, whilst the steps and methodology utilised for this exercise are depicted in table 13.

Table 12: Negative macroeconomic impact induced by a loss of government revenue (adjusted for the MWC of fiscal activity)

	N$ m
GDP	28.7
Personal income tax	1.8
Company tax	0.7
Indirect taxes	1.6

Employment	Number
Formal jobs	57
Informal jobs	8

Table 13: Methodology and steps utilised for determining the negative macroeconomic impact of a reduction in the grain import levy	
Step	**Methodology**
1	Determination of the decline in fiscal revenues arising from the lower grain levy, which is the exact same amount as the figure utilised as basis for the increase in aggregate demand (see table 1). This yielded a value of N$ 24.83 million.
2	The sector-specific economic output multipliers for government services (utilising South Africa's national accounts input/output tables as a proxy) were then applied to the above figure, in order to determine the total negative impact on GDP, employment and the second-round effects on taxation revenues in the Namibian economy. Three different effects on these variables were quantified, namely the direct, indirect and induced effect.
3	The results obtained in step no. 2 were then adjusted to accommodate the so-called marginal welfare cost (MWC) effect (as discussed in section 5 – see table 4), yielding the following net negative impacts: • GDP reduction of **N$ 28.7 million** • Formal sector employment reduction of **57 jobs** • Informal sector employment reduction of **8 jobs** • Decline in taxation revenues (second-round) of **N$ 4.1 million**

7 The net macroeconomic impact

In order to obtain the net impact of the opposing effects of lower taxation revenues, on the one hand, and increased household expenditure, on the other hand, the values for the different indicators in table 12 need to be deducted from those contained in tables 2, 3 & 5.

Table 14: Net positive macroeconomic impact induced by a reduction of 3.6 percentage points in the Namibian grain import levy

	N$ m
GDP	57.4
Personal income tax	1.2
Company tax	1.8
Indirect taxes	4.0

Employment	**Number**
Formal jobs	76
Informal jobs	25

This net positive result is depicted in table 14, which confirms the existence of a sound macroeconomic case for a grain levy reduction (in addition to supplementary arguments such as raising the competitiveness of the Namibian economy).

8 A note on competitiveness

A study on the issue of commodity taxation lends itself to the broader question of competitiveness. An import duty on a primary commodity immediately raises the input costs of local manufacturers and it is regarded as prudent to include a clarifying note on this issue.

It is an acknowledged fact that Namibia is not well-suited for primary agricultural expansion, as implicitly stated in various official reports, including the country's policy framework document titled *Namibia Vision 2030.* Namibia is an arid country with generally low and highly variable rainfall. A large part of the country is classified as desert, with three different desert systems present, namely the Namib, the Kalahari and the Karoo.

Less than 10% of the country receives more than 500mm of annual rainfall, which is regarded as the minimum necessary for dry-land cropping. According to the latest available food balance sheet report for Namibia (compiled by the Food & Agriculture Organisation of the United Nations – FAO), the country's import/supply ratio for cereals amounts to 54% - an exceptionally high figure compared to the aggregate for the whole of southern Africa, namely 4.8%.

Although considerable rain-fed subsistence crop production takes place in the northern regions and livestock production boasts a measure of competitive advantage (see table 15), primary food insecurity remains a reality that can only be meaningfully addressed via secondary food processing.

On a positive note, however, it is clear that Namibia offers a relatively attractive operating environment for the expansion of manufacturing activity, including food processing. The promotion of regional economic integration and export-orientated manufacturing are listed as specific objectives in the country's official development policy framework.

Table 15: Agricultural output in Namibia

Top-10 products by value - 2012

Product	US$m	Product	US$m
Meat (cattle)	142.1	Meat (game)	13.9
Roots & tubers	57.8	Grapes	13.1
Meat (sheep)	39.1	Maize	12.0
Cow's milk	36.8	Meat (birds)	11.1
Meat (goats)	15.7	Meat (poultry)	10.8

Source: *FAO*

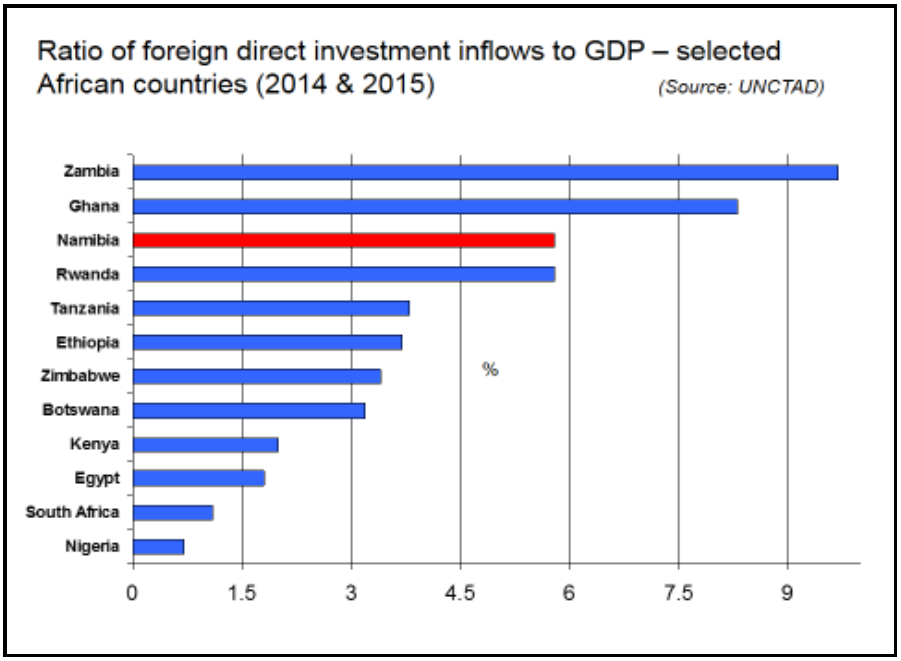
Regarding comparative advantages at a macro-level, the *Global Competitiveness Report* for 2015/16 identifies a number of indicators for which Namibia enjoys an above-average global ranking (out of the 144 countries surveyed). A selection is provided in table 16.

Table 16: Selection of Namibia's highest-ranked global competitiveness indicators (out of 144 countries)

Indicator	Ranking
Total tax rate	14
General government debt	24
Efficiency of legal framework	31
Soundness of banks	33
Property rights	34
Prevalence of foreign ownership	34
Quality of overall infrastructure	42
Affordability of financial services	47
Availability of latest technologies	48
Country capacity to retain talent	50
Exports as % of GDP	61

Source: *World Economic Forum*

It is also encouraging to note that, over the past two years, Namibia has managed to attract foreign direct investment inflows that are substantially above the average for most other African countries (as a percentage of GDP), which is illustrated by the figure.



Furthermore, the latest regional risk analysis for African countries, conducted by *BMI Research*, lists the strong transport network in Namibia as a strength, due to its facilitation of rapid transport times, resulting in lower costs for businesses.

Three other strengths are:

- An absence of bias towards foreign companies
- Low labour tax rates
- A low prevalence of corruption

The report by *BMI Research* also states that Namibia's manufacturing sector has long been a major economic driver and expresses its belief that the government will continue to implement policies to encourage industrialisation.

Namibia benefits from a robust operating environment, with the *BMI Operational Risk Index* score placing the country in fifth place in Sub-Saharan Africa (SSA). *BMI Research* believes that an attractive regulatory regime, coupled with continued political stability and efforts to improve the functioning of Namibia's utilities, will see the country become an increasingly attractive investment opportunity relative to its regional peers, boosting the country's prospects for higher economic growth, in general and manufacturing sector growth, in particular.

The rankings for selected countries in Africa are provided in table 17.

Table 17: BMI Operational Country Risk Index - Regional rankings for selected African countries

Country	Ranking	Country	Ranking
Mauritius	1	Tanzania	16
South Africa	2	Malawi	17
Ghana	4	Uganda	20
Namibia	5	Botswana	27
Rwanda	7	Zimbabwe	27
Zambia	8	Angola	31
Kenya	13	Burundi	40
Nigeria	14	DR Congo	43
Ivory Coast	15	Somalia	45

Source: *BMI Research*

Tangible proof of the country's fundamental macroeconomic stability is also illustrated by the fact that Namibia managed to weather the storm of one of the longest commodity price cycle downswings in modern history, averting a return to recession quite comfortably. Between the first half of 2011 and the end of 2015, the World Bank commodity price index for metals & minerals and for precious metals declined by 56.1% and 45.6%, respectively.

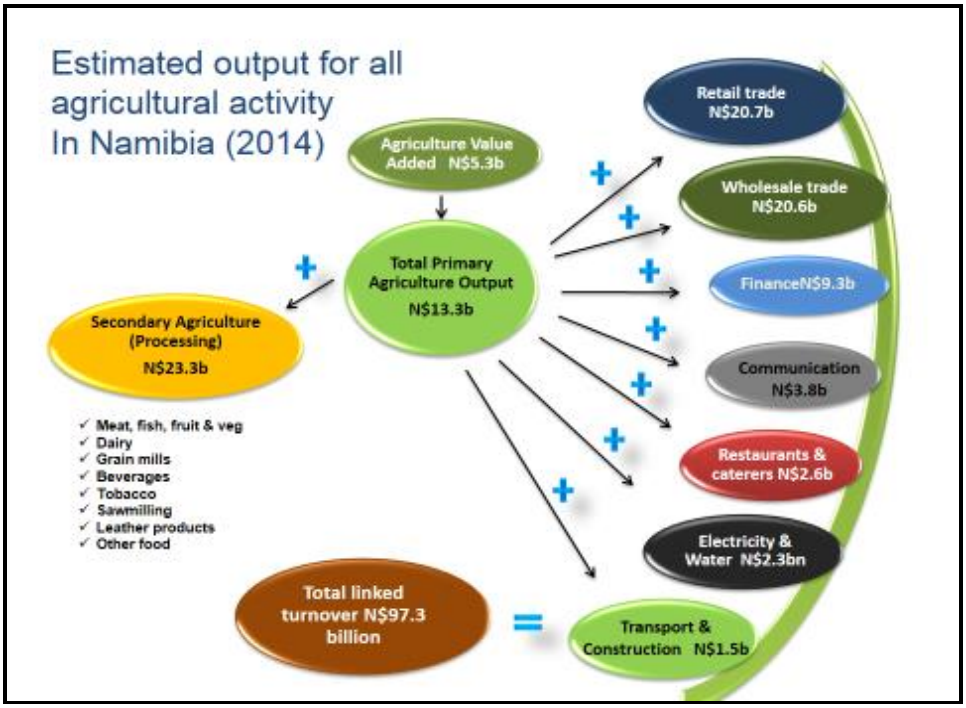
Fortunately for commodity exporters (including Namibia), the tide seems to have turned, with the above two indices having recovered from their lows by 15% and 27%, respectively (as at July 2016).

Regarding the issue of food security, scrutiny of competitiveness criteria published by several other authoritative research reports confirms the fact that Namibia enjoys unfettered access to imports of primary agricultural products.

Combined with well-established food processing industries and supplementary demand from a vibrant tourism sector and the potential for exports, food security could be enhanced via the further expansion of secondary agricultural activity, including grain milling.

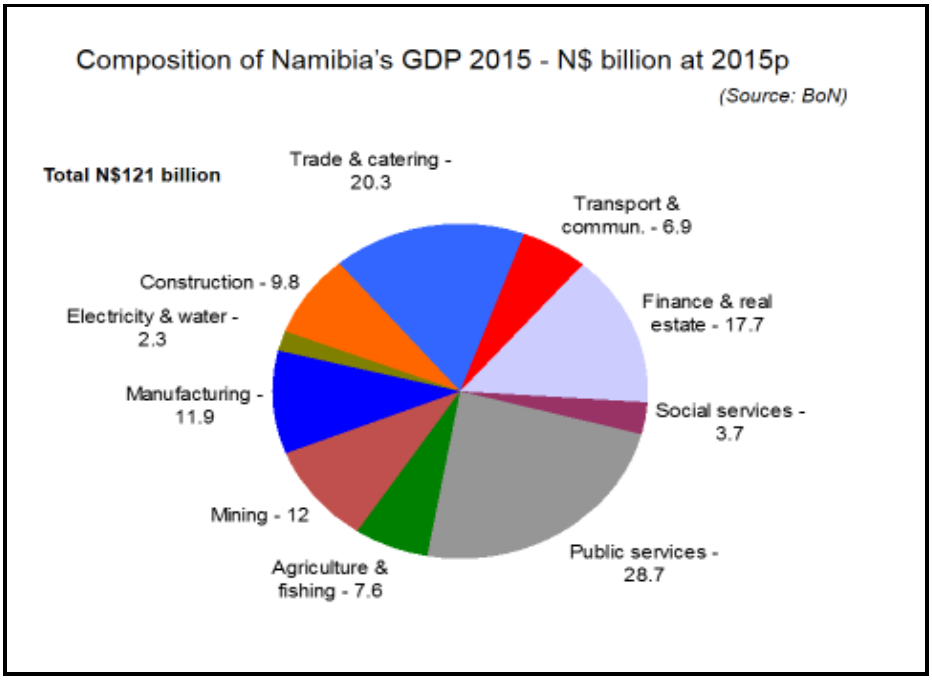
The attractiveness to government from incentivising the processing of primary agricultural products (whether locally produced or imported) lies in a pervasive downstream chain of value-added economic activity.

Using South Africa's national accounts data on the linkages involving primary agriculture as a proxy for Namibia, total turnover of more than N$ 97 billion was generated in the whole economy as a result of N$ 5.3 billion of primary agricultural output (as illustrated by the diagram).



Due to that fact that there are no substitutes for food and that it comprises the bulk of private household consumption expenditure, namely an estimated 30% of the total, consideration should be given to elevating the status of food manufacturing deserves to a strategic industry

level (as was done by several of the high-performing East Asian economies over the past three decades. Total private consumption expenditure accounts for almost two-thirds of Namibia's GDP (from the demand-side, as illustrated by the figure).



9 Summary and conclusion

The key focus of the economic impact assessment (EIA) conducted in this study was to quantify the net anticipated effect of a lowering of the grain import levy in Namibia from 5% to 1.4% on GDP, employment and taxation revenues.

Input/output (I/O) relationships between economic sectors and variables were utilised as basis for the study, supplemented by other standard techniques for economic modelling (drawn from a literature study). It should be noted that state intervention in the economy via taxation involves the distortion of resources which results, *inter alia,* in an excess burden of taxation and a marginal welfare cost to society (related to public sector inefficiencies).

The essence of the macroeconomic impact arising from a reduction in the rate of commodity taxation (such as the grain import levy) is that the gains associated with higher levels of household consumption expenditure outweigh the initial loss of government revenues by a substantial margin.

This occurs as a result of a combination of the following:

- Superior input/output table multiplier effects in the affected sectors of economic activity than for public expenditure

- The recoupment of some of the initial tax revenues lost as a result of the interactions between the markets for goods, labour and economic capital
- A claw-back of the distortion of resource flows caused by a selective commodity tax (through changes in relative prices), i.e. a lower level of excess burden
- Input-inefficiencies inherent in public sector activity (excess input consumption to achieve a level of output adjusted for productive inefficiency, often referred to as the marginal welfare cost - MWC)

The quantitative analysis was supplemented by an indication of the impact on the competitiveness of the Namibian economy of a grain import levy reduction, especially as it relates to the export potential of value added products.

The conclusion of the assessment was that a reduction of the grain import levy would entail a substantial net positive macroeconomic impact on the Namibian economy, in addition to raising the country's global competitiveness, in genera, and that of food manufacturing, in particular.

Summary of the net macro-economic impact of the grain levy reduction

	N$ million
GDP impact	57.4
Personal income tax	1.2
Company tax	1.8
Indirect taxes	4
Lower level of excess burden	2.1
Employment	Jobs
Formal sectors	76
Informal	25
Other	
Enhanced global competitiveness	
Lower food prices	

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