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Special Event on Commodity Dependence and the Impact of the Multiple Global Crises on LDCs: Mapping the exposure to market volatility and building resilience to future crises

Case study on Tanzania and Zambia[1]

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ABBREVIATIONS

ADB	African Development Bank
AU	African Union
COMESA	Common Market for Eastern and Southern Africa
DRC	Democratic Republic of Congo
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
ILO	International Labour Organisation
IMF	International Monetary Fund
KCM	Konkola Copper Mine
LDC	Least Developed Country
LME	London Metal Exchange
MCA	Millennium Challenge Account
MCM	Mopani Copper Mine
MDRI	Multilateral Debt Relief Initiative
NFCA	Non-Ferrous China Africa
NTE	Non Traditional Exports
ODA	Official Development Assistance
ODI	Overseas Development Institute
PGM	Platinum Group Metals
SADC	Southern African Development Community
SEKAB	Swedish Ethanol Chemistry AB
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
VAT	Value Added Tax

1. Introduction

The global financial and economic crisis that started in the United States in 2008 had a profound impact that led the global economy into a recession. It affected the drivers of Africa's recent growth performance as demand and prices for African commodities fell and capital flows declined. The growth of African economies had been achieved on the basis of high commodity prices, rising capital inflows and macroeconomic reforms. However, Africa – home to 33 of the 48 least developed countries (LDCs) – did not escape the impact of the crisis. Their performance was dragged by the substantial decline in economic activity in the wider environment. The financial crisis closely followed the global food crisis of 2007. It was initially thought that the countries less integrated in the global trading system would escape the impact. However, as the crisis continued in the latter part of 2008 and especially in 2009, it became clear that African countries had not escaped but had been seriously affected. There are many significant impacts which in the aggregate left distinctive scars wrought by the crisis. The origins of the crisis are well documented. In a way because the global economy is emerging out of the crisis, there will be many focusing trying to understand how to help some countries survive similar crises in future.

A number of studies were conducted to analyse the impact of the global financial crisis, as it unfolded, and suggest ways to mitigate the adverse impact. Africa was the target and object of some of these studies[2]. Many of the studies highlighted the channels through which the crisis would be transmitted to the African economies. African economies are generally linked to the global economy through trade but also through financial systems. A number of LDCs in Africa were identified as being vulnerable to the crisis and hence needed assistance to weather the impact of the global financial storm.

The present study attempts to highlight the extent of commodity dependence and price volatility of the commodity exports during the global financial crisis and how these impacted the export performance, employment, and government revenue and investment expenditure of the case study countries. It is worth noting that the two case study countries are among the

[2] See for example ADB (2009), IMF (2009), ODI (2008), OECD (2009), UN WIDER, (2009) and The World Bank (2008a), among others.

developing countries that the World Bank (2009) had identified as vulnerable to the turbulence caused by the global financial crisis. From that list, the G-20 selected eight African countries that were to receive Global Financial Crisis funds. In Africa, Ghana, Liberia, Tanzania and Zambia were selected to receive the one-time assistance (Lunogelo et. al. 2009 p. 22)[3].

1.1 The global financial crisis

The global financial crisis metamorphosed into an economic crisis as a result of changes to the prevailing conditions. Whereas the financial crisis was characterised by a credit crunch which led to a drying up of loan funds and an increase in the rates of interest thereby making them unstable, this crisis turned into an economic crisis as demand for products and commodities fell. The credit that had characterised and supported consumption in developed economies dried up. This called for a review of expenditure and consumption patterns to fit the new circumstances in constrained budgets without or with limited and expensive credit. In addition to demand and prices, the financial crisis had an impact on investment and growth. The crisis was also expected to affect ODA flows as developed country governments gave priority attention to the recession at home and needed resources to rescue their domestic economies. Because developed economies faced challenges and needed to stimulate domestic demand, the crisis threatened another area of interest to developing countries – development assistance.

Studies analysing the impact of the global financial crisis on Africa particularly during the currency of the crisis, tended to focus on the channels of transmission and estimates of the quantitative impacts of the crisis (see for example ADB, 2009 and UNECA and AU, 2009) as they sought to explain the way the crisis reached African economies. The starting point of the crisis was that a credit crunch developed, associated with liberal mortgage lending to a class of borrowers who failed to service their loans in the United States. Through the extent of inter-connectedness of international financial markets, the problem spread to other parts of the developed world. It was expected that this phase would have a minimum impact on African economies. However, the phase of the crisis manifest itself in the difficulty to secure

[3] The US government also weighed in with US$255.6 million in Economic Support Funds for assistance for vulnerable populations in developing countries severely affected by the global crisis on the basis of certain eligibility criteria. Five African countries that received support from these funds are Ghana, Liberia, Mozambique, Tanzania and Zambia (see Arieff, et. al. (2010) p. 29).

trade finance evidenced by variable terms especially interest rates. At that point the crisis affected all categories of countries in Africa among them those "considered to have good economic policies and governance; those with poor macroeconomic records; fragile states; small and large economies; oil- and non-oil exporting countries" (UNECA and AU, 2009). This emphasis was made to underline the point that effects of the crisis in the region were not a result of poor macroeconomic policies and governance commonly associated with many African countries. However, even with that caveat, it is important to note that the extent of impact differed between countries.

The present study seeks to explore and explain the impact of the global financial and economic crisis in a specific group of countries. The countries under study are dependent on commodity exports for their foreign exchange earnings, income and employment. The case countries for this study are Tanzania and Zambia. Tanzania exports minerals and a variety of agricultural commodities while Zambia's main exports are copper and cobalt plus a few agricultural products. The main channel through which the crisis would be transmitted to the commodity dependent countries was trade. While the first phase was more banking related and thus financial, the credit crunch had multiple economic impacts. From a trade perspective, it primarily affected demand in the developed markets in Europe and the United States and in large developing country markets including China. In most cases, the commodities' ranking in the consumers' basket fell as they were regarded as non-essential. Thus they dropped lower in priority or out of the shoppers' lists altogether. Falling demand, representing a narrowing market, impacted prices of the commodities being offered by African LDC producers as exports. The falling demand and the declining prices combined to reduce export earnings from commodities. In this way, the impact of the global financial and economic crisis is analysed within a specific context that is defined by the commodity dependence. In addition, an argument associated with this is that commodity prices are highly volatile, a characteristic that is made worse during a crisis. Thus the analysis of the impact of the financial crisis is conditioned to a great deal by the inherent factors of commodity dependence and volatility of commodity prices. In this study, a few parameters have been selected for focus. These are impacts of the crisis on export performance and market volatility, employment and employment income, government revenues earned from commodity exports, and public and private investment expenditure.

It is necessary to re-state that market prices change with changes in supply and demand conditions in the markets. If there is a glut on the market, the price will fall. Some changes are occasioned by discoveries or a large population joining the consumption of a particular product.

2. Understanding Commodity dependence and price volatility

An analysis of the impact of the global financial and economic crisis on Tanzania and Zambia requires an understanding of two terms: commodity dependence and volatility. These are important because they lay the ground for understanding what was happening during the crisis. A brief explanation of each is given below to provide the basis for analysis in subsequent sections.

2.1 Commodity dependence

Commodity dependence occurs when primary production is the single most important contributor to GDP and exports. In many LDCs and developing countries, the share of primary production is more than 30%. Excluding mineral and fuels shows that many developing countries earn more than 50% of their export earnings from one or two principal commodities. There is a problem with this dependence that is well known in development economics. A decline in commodity earnings is associated with declining export growth rates, declining investment and slow or declining negative real per capita income growth rates. The association of commodity dependence with underdevelopment and low income expresses the well known commodity dependence pessimism that first emerged in economic development literature in the 1950s. Although commodity pessimism has been widely criticised or refuted, there seems to be sufficient evidence of a correlation between dependence on commodity exports and low income (Yabuki, and Akiyama, 1996). Sub-Saharan Africa by far leads the world in its dependence on commodity exports. This study attempts to confirm that there is commodity dependence and establish its extent in the Tanzanian and Zambian cases. This is necessary to ensure that the elements of analysis that follow are sufficiently grounded in fact as experienced by the two countries selected to highlight the plight of other LDCs and other developing countries that face similar cases of commodity dependence.

2.2 Commodity Price Volatility

The general commodity price boom observed between 2003 and 2008 has raised interest in commodity price developments. The global financial crisis was characterised by falling prices. The interest on price changes before, during and after the crisis tries to understand what triggered the fall in commodity prices on the world markets. These changes just show in a small way what are viewed as wide swings in commodity prices which have adverse effects on economic activities and leave countries with macroeconomic management problems.

Volatility in commodity markets refers to variability of commodity prices – their rise and fall. Commodity prices invariably go through swings underlining their volatility which occurs for a variety of reasons but mainly related to variation in supply of and demand for commodities. The main reason is that easily be produced and usually are not processed or have only limited value addition. Thus, they can easily be replaced or treated as non-essential, a feature that affects the elasticity of their demand on international markets. They are to a large extent used as raw materials for production. The production of commodities is also influenced by factors which affect their supply thereby affecting price, and as a consequence the value received from commodity exports. It is not always possible to pre-determine supply and demand conditions on global markets since conditions change.

A major issue in commodity price volatility is that it is related to low responsiveness of producers and consumers to changes in supply and demand. A change in supply can be influenced by the amount of resources devoted to or invested in an activity and the productivity of resources employed. In agriculture for example, increasing acreage devoted to the production of a crop can change supply. Production conditions outside the scope of influence of the producers such as the weather can induce changes that alter the supply. A new phenomenon occurred in relation to agricultural commodities – their use in the production of bio-fuels induced increases in demand. Supply conditions were not able to adjust quickly to meet the increased requirements and hence prices of those commodities used in bio-fuel production and their substitutes rose as a result. Another development associated with the production of bio-fuels has been the use of scarce land for the production of bio-fuels as an alternative to oil. However, in the long run investment, technology such as treated seeds, applying fertilizer and the degree of mechanisation can substantially alter the yield and lead to a change in supply. Currently, climate change is an important issue that must be investigated for its impact on a number of activities and developments, including in agriculture. If it were possible to forecast supply conditions or for production to change when supply or demand changes occur, then the extent of volatility and the effects of volatility would be reduced. Productivity in extractive industries depends on the purity of extracted minerals and the cost of discovery and exploitation of the resources. The supply of minerals is influenced by the efficiency and productivity of the resources committed to the extraction of minerals. The predictability of both the demand and supply of commodities would minimise the production and supply related swings and offer suppliers stable and predictable incomes.

Changes in demand on the other hand are influenced by the prices of substitutes, changes in tastes and changes in income. Most commodities supplied by developing countries and LDCs to developed countries are required as industrial raw materials in the production processes. As such, the growth of global demand and other changes related to stages of development in the business processes influence the demand for raw materials. The response to meet this changed demand depends on the capacity to supply and the speed with which new capacity can be created.

Significant changes in supply and demand conditions can cause price volatility because of low short-run price elasticity of producers and consumers. Production can only be altered after some time and therefore lags demand. On the other hand, consumers can only change their habits if induced to by substantial price changes. The nature of what they consume is that food intake is fixed and a change can only occur as a change in diet. Commodity prices account for a small share of the value of a consumed product although in the case of commodities consumed locally such as rice, market prices are not very different to the price paid to the producers. Value addition adds considerable costs to the price of the final product. Producers also tend to install capacity higher than current levels of consumption designed to cater for increased demand at short notice. In some cases, stocks of products can also be used to respond to changes in demand. However, both cases represent limited provision to deal with changes in demand and in the long run adjustments would be required to cater for the changes in more substantial ways.

There are developments seeking to understanding volatility that are investigating the possible links between increased commodity prices volatility and financialisation of commodity exchange trade as spillover effects of financial markets. The thinking is that commodity price volatility may have increased with the entry and participation of financial markets in trading commodity derivatives. Financial investors entering commodity markets are thought to have brought into the commodity trading environment, the price developments that characterise equity markets (Gilbert and Morgan, 2010). Evidence is awaited on the viability of the linkage suggested. However, when related to the global financial crisis, trading in commodity derivatives would release volumes of commodities into the market and stir up the decline in prices. Without calculating the volatility, price developments of selected commodities are plotted in charts below. These commodities were selected from a list of those exported from Tanzania and Zambia, the country cases studies for the present study.

3. Case country characteristics

a) Tanzania

Tanzania is in East Africa and shares borders with Burundi, Kenya, Democratic Republic of Congo, Malawi, Mozambique, Rwanda, Uganda and Zambia. It is a member of the East African Community which launched a common market on 1 July 2010. Tanzania is also a member of the Southern African Development Community (SADC).

The main economic activities in Tanzania are agriculture, industry and services. The agriculture sector contributes 30% of GDP and is a source of raw materials for the domestic industrial sector (see Table 1). It provides employment to about 70% of the population and contributes about 45% of total export earnings. The services sector contributes more than 45% to GDP while industry, which includes mining, contributed almost 23% to GDP in 2008. The main exports are coffee, cotton, cashew nuts, tea, sisal, tobacco and horticulture crops. Other primary commodity exports are from the mining sector with diamonds, gold, tanzanite, nickel and aluminium. In addition, Tanzania exports fish (Nile Perch). In the period before the crisis (2004-2008), Tanzania's GDP growth averaged 7.3%[4] per annum and was projected to grow at 8% in 2009 but it actually achieved a 5.5% growth[5]. The government had an objective to create one million jobs between 2005 and 2010 (Komba, (2008), Minja (2008), Government of the United Republic of Tanzania, (2007) and the World Bank (2008).

[4] UNCTAD Handbook of Statistics 2010

[5] Idem.

Table 1:Tanzania Share of GDP (Percent), 2000-2008

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Percent									
Agriculture, hunting, forestry, fishing	**33.0**	**32.5**	**32.1**	**32.1**	**32.9**	**31.3**	**30.2**	**29.7**	**30.4**
Industry	**18.9**	**19.0**	**20.7**	**22.2**	**22.0**	**22.3**	**22.5**	**22.9**	**22.6**
of which									
Mining, manufacturing, utilities	13.4	13.5	13.6	13.7	13.6	13.9	14.0	14.4	14.1
of which: Manufacturing	9.2	8.8	8.8	8.8	8.6	8.5	8.4	8.4	8.4
Construction	5.4	5.5	7.1	8.4	8.4	8.4	8.5	8.6	8.5
Services	**48.1**	**48.5**	**47.2**	**45.8**	**45.1**	**46.3**	**47.3**	**47.4**	**47.0**
of which									
Wholesale, retail trade, restaurants and hotels	16.6	16.8	16.0	15.4	14.7	14.7	15.3	15.6	15.2
Transport, storage and communications	7.1	7.0	6.7	6.6	6.5	6.7	7.0	7.2	7.0
Other services	24.5	24.7	24.5	23.9	24.0	24.9	25.0	24.6	24.8

Source: UNCTADStat database (2011)

b) Zambia

Zambia is in Southern Africa and shares borders with Angola, Botswana, Democratic Republic of the Congo (DRC), Malawi, Mozambique, Namibia, Tanzania and Zimbabwe. It is a member of the Common Market for Eastern and Southern Africa (COMESA) and SADC. For a long time, Zambia has been a unique case of an undiversified economy with very high dependence on a single mineral (copper) for exports. The mining sector is Zambia's nerve centre and historically, copper mining has been the lifeline and remains the mainstay of the country's economy (ILO (2009)). Zambia is Africa's largest and the world's seventh largest copper producer, and is the world's largest producer of cobalt as well. At its peak of production in the late 1960s and early 1970s, Zambia produced about 750,000 metric tonnes of copper per annum which accounted for more than 80% of the country's foreign exchange earnings, over 50% of Government revenue, and 20% of total formal sector employment (Simutanyi, 2008). Copper production in Zambia has experienced crisis before. In the 1980s, output dropped below 300,000 metric tonnes but it recovered to current levels between 400,000 and 600,000 metric tonnes per annum. The services sector is by far the largest contributor to GDP, contributing 66% in 2008. This was followed by agriculture (12%) and manufacturing (10%) with mining significantly behind the other sectors at 8%. The dominant agricultural activity is the production of maize and a few cash crops such as tobacco, cotton, groundnuts and sorghum. Other crops that have emerged as significant non traditional exports are sugar, floriculture and horticulture. Although Zambia is richly endowed with mineral resources such as copper, cobalt, gold, nickel, diamonds, coal, emeralds and uranium, the mining of copper and cobalt has been dominant. Zambia has for a long time grappled with severe macroeconomic and negative economic growth performance much of which emanated from its reliance on copper as the dominant single export.

The sectors contributing significantly to formal employment in Zambia are services, which contributed 70% in 2008, agriculture (13%), manufacturing (10%) and mining (8%). Mining is the largest source of employment in the copperbelt and contributes significantly to the economy of Zambia's important region.

Table 2: Zambia GDP BY KIND OF ECONOMIC ACTIVITY (Billion Kwacha), 2000-2009

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Agriculture, Forestry and Fishing	2,002.2	2,582.0	3,247.4	4,244.6	5,568.2	6,723.6	7,800.2	9,139.5	10,863.8	13,469.9
Mining and Quarrying	416.1	518.9	575.1	564.8	809.6	1,030.9	1,612.5	2,037.2	2,227.6	805.4
PRIMARY SECTOR	2,418.4	3,101.0	3,822.5	4,809.4	6,377.7	7,754.5	9,412.8	11,176.7	13,091.4	14,275.3
Manufacturing	1,024.6	1,293.1	1,693.6	2,241.0	2,827.7	3,430.2	4,015.7	4,487.4	5,125.0	6,011.3
Electricity, Gas and Water	328.0	445.3	488.3	595.1	694.7	922.7	1,165.9	1,345.0	1,512.4	1,804.9
Construction	500.5	728.6	1,067.7	1,590.0	2,321.5	3,216.4	4,703.7	6,692.7	8,811.4	12,468.2
SECONDARY SECTOR	1,853.1	2,466.9	3,249.6	4,426.1	5,843.9	7,569.2	9,885.3	12,525.1	15,448.8	20,284.4
Wholesale and Retail trade	1,879.8	2,340.5	3,004.1	3,873.8	4,843.7	5,868.9	6,524.7	7,395.5	8,523.5	10,037.0
Restaurants, Bars and Hotels	207.0	315.9	406.8	527.7	670.9	894.0	1,120.1	1,354.2	1,604.7	1,516.7
Transport, Storage and Communications	635.7	852.6	1,055.9	1,058.2	1,252.3	1,395.6	1,629.2	1,984.4	2,248.9	2,312.9
Financial Intermediaries and Insurance	982.2	1,238.8	1,493.1	1,847.7	2,282.7	2,771.5	3,246.9	3,647.2	4,510.3	5,577.7
Real Estate and Business services	660.6	832.8	1,041.2	1,341.2	1,691.8	1,979.4	2,296.4	2,678.2	3,137.7	3,686.2
Community, Social and Personal Services	951.3	1,297.1	1,478.4	1,828.9	2,122.8	2,806.9	3,462.2	4,324.1	5,465.1	6,641.8
TERTIARY SECTOR	5,316.6	6,877.8	8,479.5	10,477.5	12,864.2	15,716.4	18,279.4	21,383.6	25,490.1	29,772.3
TOTAL GROSS VALUE ADDED	9,023.6	11,733.7	14,693.6	18,651.2	23,774.0	29,447.4	35,711.6	42,989.4	51,438.4	61,126.6
Import duties/Net Indirect Taxes/Taxes on Products	1,097.7	1,460.0	1,630.8	1,899.9	2,219.1	2,594.2	2,849.2	3,205.4	3,640.4	3,199.5
TOTAL G.D.P. AT MARKET PRICES	**10,121.3**	**13,193.7**	**16,324.4**	**20,551.1**	**25,993.1**	**32,041.5**	**38,560.8**	**46,194.8**	**55,078.8**	**64,326.1**

Source: Bank of Zambia

4. Country specific features and experience due to the financial crisis

4.1 Export Performance

Export performance is a result of a combination of factors such as levels of production, demand in international markets and the prices received on the export. Developing countries including LDCs produce and export commodities whose international market prices are subject to variation caused by many factors but especially the state of supply and demand.

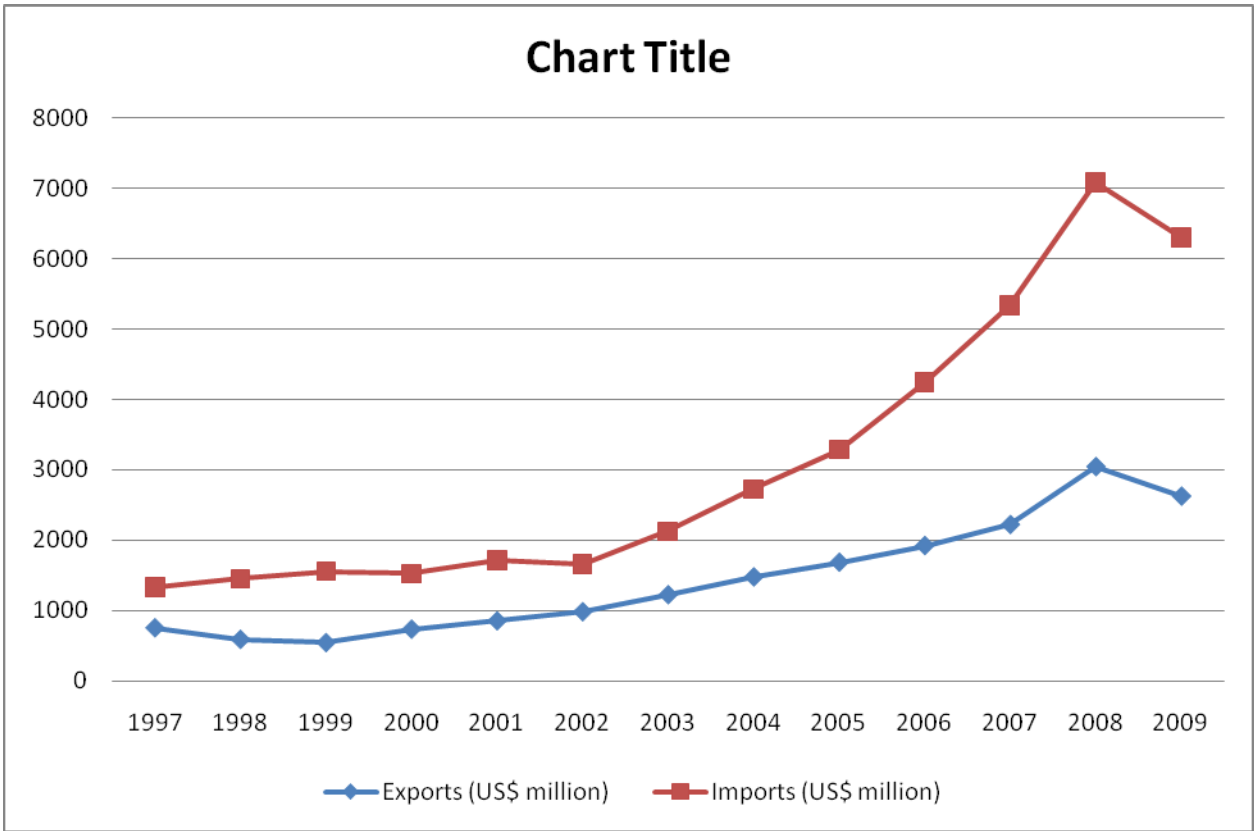
a) Tanzania

The performance of the export sector in Tanzania was affected by adverse conditions on the international markets especially declining demand and market prices for commodities. The primary exports of agriculture and mining contribute significantly to total exports. Tanzania exports coffee, cotton, cashew nuts, tea, sisal, tobacco and horticultural crops. Although there is commercial agriculture, most of the export crops that are also sold on the domestic market are produced by the small holder subsistence sector. In the mining sector, diamonds, tanzanite, nickel, aluminium and gold are key mineral exports. The largest groups of exports are mineral (ores, metals, precious stones and non-monetary gold) which in 2009 contributed 47% to total exports. Agriculture contributed 45% of total export earnings of which all food items contributed 26%.

Figure 1 shows exports and imports trends for Tanzania (1997-2009). Exports grew steadily and by 2008 had quadrupled. In 2009, exports fell 13.8% as a result of the global financial crisis. The global financial crisis affected demand for commodities in developed markets. As financing became tighter, the consumers were forced to rationalise the limited expenditure. This lead to a fall in demand which also affected prices paid for the commodities. Thus the fall in export earnings in countries like Tanzania was more a result of a fall in prices of commodities. However, in some cases such as for cotton and sisal, there were declines as result of shortages of trade finance and a consequent fall in volumes exported.

The fall in exports was attributed to negative growth in agricultural exports, minerals and gemstones, traditional and non-traditional crops (Lunogelo, et. al. (2010). An analysis of the impact of the crisis on Tanzania's top 10 exports shows that cotton, fish, tobacco and vegetables suffered declines. Tobacco exports fell by as much as 49.2% in 2009 over their 2008 levels. Vegetables fell by 18% while fish declined by 10.4%. Prices of commodities declined as demand on international markets retreated in the face of a deep financial crisis characterised by tight credit. The effect was a loss of markets and sharp decline in earnings. Urging the government to intervene and save the farming community in Tanzania, the Agricultural Council of Tanzania indicated that the world economy raised challenges for the sector which included "dwindling market prices of agricultural produce, local stock piles of crops such as cotton, tea, sisal, cashew nut and coffee due to lack of markets." This performance hit the economy in a visible way. It affected the buying activities related to traditional export crops on the domestic market. The Bank of Tanzania (2009) showed some of these effects, highlighting that procurement of traditional export crops (cashew nuts, coffee, cotton lint and sisal) declined to 222,433.1 tonnes in the quarter ending December 2009 from 308,595.3 tonnes recorded in the corresponding period in 2008. The decline was mainly associated with the global financial crisis that affected commodity markets. Those engaged in the marketing of commodity crops had difficulties raising the credit to finance purchase of crops from producers. The constrained funding affected the local purchase of crops and hence the quantities exported. In a way this added a similar impact to that generated by falling prices as a result of declining demand on international markets.

Figure 1: Tanzanian exports and imports, 1997-2009



Source: UNCTADStat database 2011

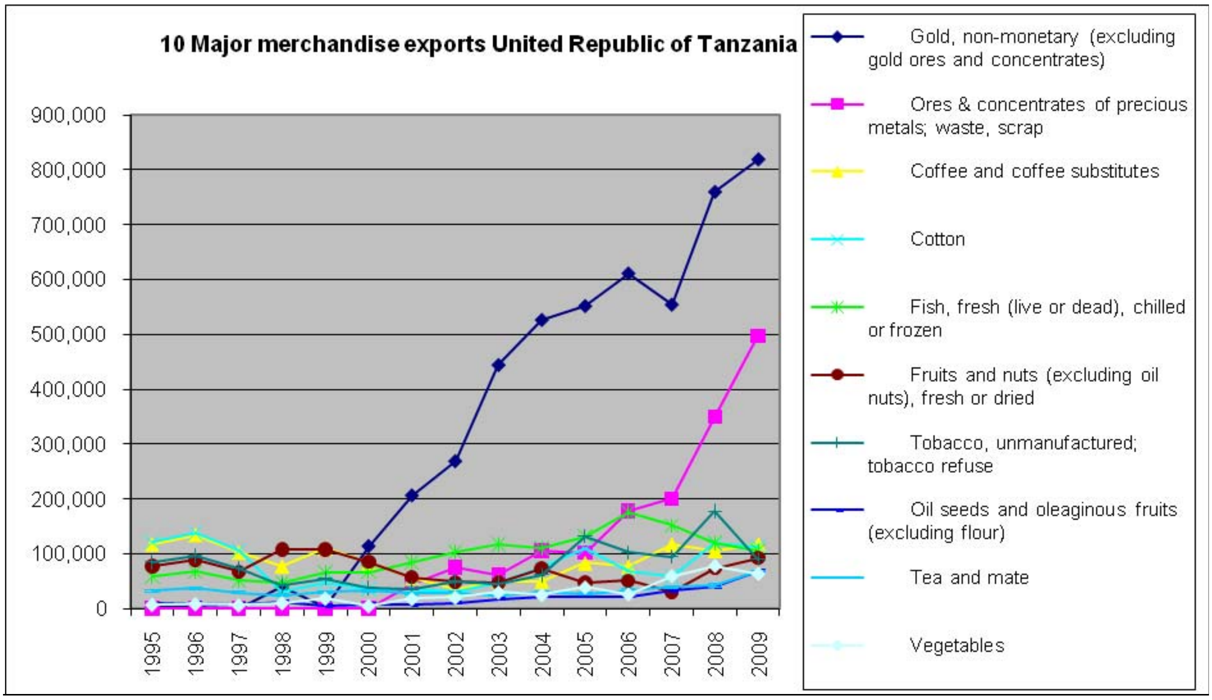
The stock pile of the cotton crop resulted from a fall in the world market demand for the crop. The fall in international demand led to a 40% decline in the international market price for cotton. Some of the major cotton dealers on the (world) market cancelled orders for cotton that had been placed with Tanzanian suppliers. For example, by January 22, 2009, there were 138,011 bales of cotton (equivalent to a quarter of the total output for the 2008/09 season) piled up in ginneries due to lack of orders (Ndulu, 2009). According to Lunogelo et. al. (2009) the traders who had bought cotton from farmers at higher prices faced a shrinking market as demand declined. Traders were thus left holding large stocks of cotton expensively procured piled up in warehouses. The Bank of Tanzania monitored procurement of traditional export crops in preparation for export on a quarterly basis. The table (Table 3) below shows purchase of agricultural export crops per quarter between 2008 and 2010.

Table 3: Quarterly purchase of agriculture commodities (tons)

	Q1 08	**Q2 08**	**Q3 08**	**Q4 08**	**Q1 09**	**Q2 09**	**Q3 09**	**Q4 09**	**Q1 10**	**Q2 10**	**Q3 10**
Tobacco		33729.7	54500.9	off season	1273.5	34895.5	59022.6	off seas	off season	60,382.5	92,900.0
Cotton Lint	off season	off season	115930.8		123448.5	off seas	180979.7	89495.1	off season	off seas	54,213.9
Cashew Nuts	99106.7	off season	off season	61618.0	76829.6	2451.0	off seas	48633.4	74,168.7	off seas	off seas
Coffee	41260.0	3720.0	48215.0	57250.0	45000.0		38600.0	31523.4	34,511.0	1,212.7	33,658.4
Sisal	7949.0	9064.0	22559.1	35646.6	8394.1	6290.0	11040.0	20689.0	5,276.0	7,050.0	16,420.8
Tea	10724.2	20678.7	22538.6	31603.9	10511.5	19008.6	22530.4	32092.1	11,219.6	19,700.1	23,455.2

Source: Bank of Tanzania Quarterly Economic Bulletin (various issues)

Figure 2: Tanzania's main merchandise exports (US$ '000, current), 1995-2009



Source: UNCTAD, UNCTADStat database, 2011

The quarterly performance of exports Annex Table 1) shows that they declined in the first and second quarters of 2009. On a quarterly basis, traditional exports were at the lowest in the three periods in the second quarter of 2008 at USD 42 million before increasing to USD163 million in the fourth quarter. They declined over the next three quarters in 2009 before recovering in the fourth quarter. The declining performance in 2009 is associated with the global financial crisis. Gold exports generally strengthened and this strength is associated with the value accorded to the mineral as an intervention instrument in the face of currency depreciation (of the US dollar and the pound sterling) during 2009. Other mineral exports were severely affected as the value fell sharply (by 71.7%) in the fourth quarter of 2008 and touched their lowest level in the first quarter of 2009. This group include tanzanite whose price fell during the crisis. Overall, comparing quarter-by-quarter export performance, total exports fell in the first quarter and were lowest in the second quarter of 2009.

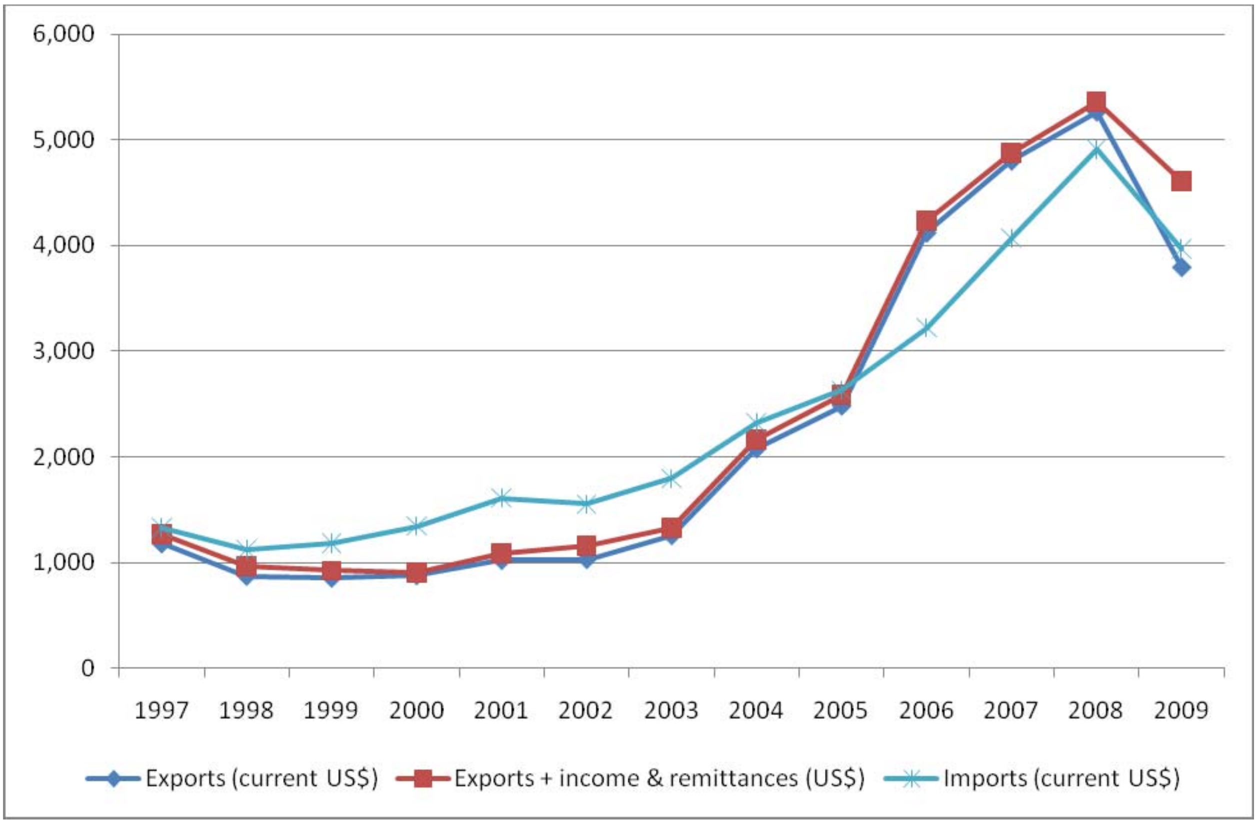
The Tanzanian mining sector was affected by a decline in the world price for diamonds, tanzanite, aluminium and nickel. The price of diamonds fell by 26% between September 2008 and April 2009: from \$8,870 to \$6,608 per carat. The world market price for tanzanite fell by 50% in 2009. The market price declines prompted companies in the mining sector to seek to minimise their losses associated with the global financial crisis. The tanzanite price decline affected small-scale miners who were forced to lay off workers as a cost reduction measure. Consequently production of the diamonds declined in the third and fourth quarters of 2009. Tanzanite production and exports declined. The prices of other mineral commodities such as nickel, uranium, copper and platinum group metals (PGM), which are under intensive exploration in Tanzania experienced a general decline. These developments induced by the global financial crisis had other impacts especially on investment.

It is important to note that exports of fish and fish products did not suffer and were resilient over the period. Horticulture exports survived but appear to have suffered small declines in the second and third quarters of 2009 and showed some recovery by the fourth quarter.

b) Zambia

Zambia's main commodity exports are copper and cobalt, and some agriculture products such as maize, tobacco, cotton, groundnuts, sugar, floriculture and horticulture. The chart below shows the performance of Zambia's exports, imports, and exports plus workers' income and remittances over the period 1997-2009. The export trend shows a steady upward growth with a steeper increase starting in 2003. This trend peaked in 2008 and shows a drop in 2009 which is associated with the impact of the global financial and economic crisis on Zambia's exports.

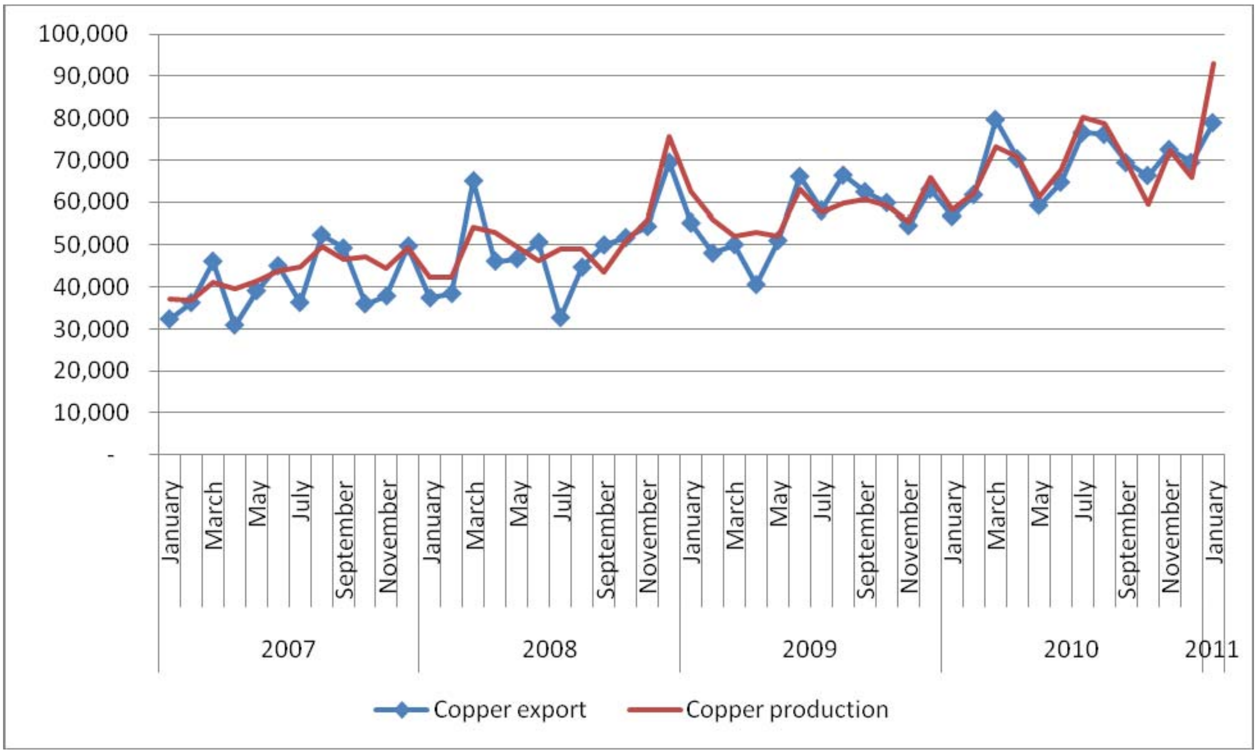
Figure 3: Zambian trends in selected economic indicators (current $US million), 1997-2009



Source: UNCTADstat database, 2011

Figure 4 shows the monthly production and export of copper, the main export for the period 2007 to early 2011. Over the two years (2008-2009) of the crisis, the production and export volumes show a general upward trend except for peaks and troughs which show general variability in production and export. What is even more striking though is the fact that variations in copper production lag the export changes which might indicate the influence of prices realised on production. Generally, the reverse, where exports lag production, would be common where the demand is unlimited and producers are certain that what they produce will be bought. There was a fall in export value in 2009 shown in Fig. 3 which is not reflected in the production and export volumes. Besides, it is not clear if the US dollar earnings from exports recovered in 2010. The decline in export earnings associated with the crisis appears to have been driven by the international price of copper which fell from US$8,985 per tonne in July 2008 to US$2,902 by the end of the same year. Over a five months period, copper price had dropped a massive 67.7%. The Bank of Zambia tracks copper prices on the London Metal Exchange (LME). The copper price showed a recovery during 2007 starting at US 257.47c per pound (or US$5,676 per tonne) to a high of US 393.95 cents per pound (US$8,685 per tonne) by April 2008. The slide started in August and continued to December (US 139.05 per pound). LME copper prices recovered slowly and by December 2009 had reached US 316.69 cents and US 414.92 cents by December 2010. It is possible therefore that the production and export of copper which was rising through the crisis period was an attempt to use increased production and exports to make up for price induced losses on export receipts.

Figure 4: Zambia's copper exports and production per month (Tonnes), Jan. 2007 – Jan. 2011

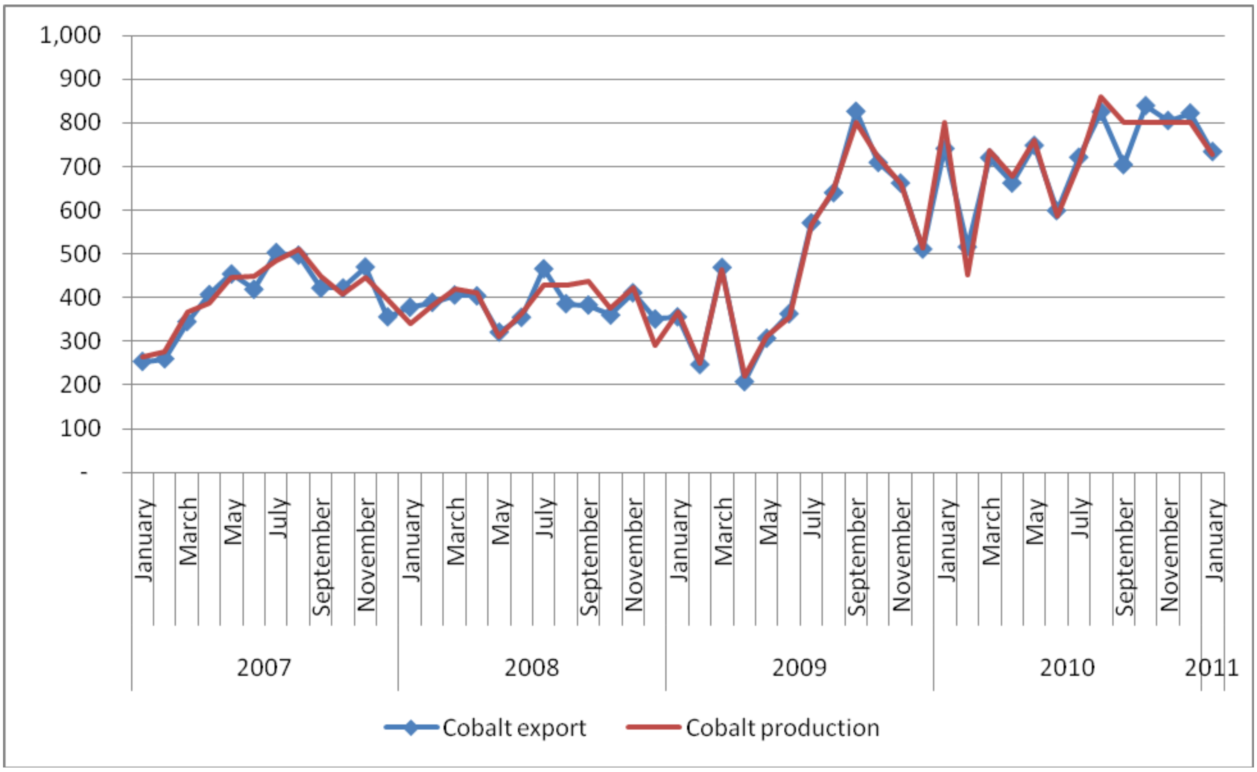


Source: Bank of Zambia

The production and export of cobalt somewhat follows a similar trend to that of copper. However, the trend was upward to the middle of 2007 and thereafter cobalt experienced mixed fortunes of slow decline and static performance between August 2007 and April 2009. Thereafter, production and export rose up to the end of 2009 and fluctuated between 500 and 800 tonnes.

The realised export price of cobalt on the other hand fell more sharply from US$ 44.95 in March 2008 to US$ 3.85 per pound in March 2009 (or US$ 99,096 to 8,487.65 per metric tonne), a 91.4% plunge occasioned by declining demand for cobalt on international markets over the period. Moreover the realised export price only recovered marginally and has been hovering between US$ 14 and US$ 16 per pound over the period April 2009 to December 2010 as production and export continued to vary after the peak of the crisis. Before the beginning of the crisis in 2008, Zambia sold cobalt at a monthly average price of US$25.11 per pound or US$55,362 per tonne. The increase in cobalt production and export volumes may be a response to low prices.

Figure 5: Zambia cobalt production and exports (Tonnes), Jan. 2007 – Jan 2011



Source: Bank of Zambia

On the whole exports of goods and services increased more than six times from US$877 million in 2000 to US$ 5,266 million in 2008 before a 28% fall induced by the crisis in 2009. This slump and difference between export values in 2008 and 2009 underlines the volatile nature of commodity exports. A study by Ndulo et. al. (2010) argues that the growth in exports was driven by production and exports of copper due to significant growth of investment in the sector as a result of privatisation and copper price increases. The same study also shows significant growth in non-traditional exports including sugar, cotton, tobacco, electrical cables and fresh flowers from US$248 million in 2000 to more than US$881 million in 2008. This shows rather low diversification especially that these originate from the other primary production sector which leaves Zambia vulnerable to changes in demand or variations in commodity prices. While the fall in exports in 2009 over 2008 performance was US$ 1,472.4 million, the loss associated with exports earnings decline is in actual fact higher than the decline because the volume of some of the exports actually increased and yet realisation was lower. In addition, lost opportunities add to this figure. Assuming that the price before the crisis was maintained in the latter part of 2008 and 2009, the earnings would have been higher. Given that the economy has not fully recovered from impact, there are economic costs associated with lost opportunities which would have contributed positively to growth, employment and government revenue as result of an increase in export earnings. The recovery of the price of copper was rapid and almost doubled from $3221 per tonne in January 2009 to $6196 in September 2009. The rise in copper prices coincided with an increase in copper production and the opening of a major new mine in December 2008 in Zambia after the peak of the crisis in 2008 (ODI 2010).

The case of Zambia's main exports has highlighted the volatility wrought by prices changes more than volume. However, there are commodities where it will not be possible to adjust production volumes and increase exports to compensate for losses that arise due to price fall. There are other exports where there is a loss arising from a combination of loss of demand (volume) and reduction in prices received. In those cases, the ultimate loss will be a combination of the proportionate loss due to reduction in price and the loss due to reduction in volume. It has not been possible to identify exports affected in order to estimate the loss. However, since the loss in exports earnings has already been quantified, it is clear that this is the aggregate effect of all variations in demand and price.

Zambia's undiversified production and export basis, in particular, the high dependence on the mining sector implies that the main effect of the crisis on the economy was via the trade channel (via international demand for major minerals). However, the impact of the crisis on the mining sector was severe. The production structures in Zambia show that mining is dominated by copper, which is capital intensive, with a few large international firms making up the bulk of it. The firms draw on their own capital to limit the extent to which they have had to cut back operations. With the copper prices recovering, the firms started to rehire workers.

4.2 Employment and employment income changes

One of the major consequences of the global recession experienced in 2008-2009 was massive job losses and deteriorating working conditions for those still in employment in the affected sectors, both in the developed and developing countries. It was estimated that, on a global scale, job losses would rise to more than 50 million by the end of 2009 due to the economic crisis and would continue until 2011 (ILO, 2009). The impact on job losses was more severe for developing countries and World Bank estimates put 40% of developing countries as being highly exposed to poverty effects of the global economic crisis (ODI, 2009). Some countries such as Zambia were viewed as being particularly highly exposed given their open regimes and the economy's dependence on a single export commodity for foreign exchange earnings.

The population engaged in agriculture may not be employed in the sense similar to those in the mines. However, they derive income from selling what they produce and in the case of commodity exports, the international market is the source of income for those people. For the large scale commercial farms, the workers are in a position similar to those employed in mining. The loss of a job is associated with the loss of income. However, the agriculture sector is dominated by small holder farmers for whom production income is earned from their self-employment on the land. Failure to sell their produce deprives them of income reducing their capacity to provide for family requirements. This same situation applies to small scale and artisanal miners who run their own mining enterprises. Inability to sell their products on account of lost markets leads to loss of income.

The loss of employment and income has multiplier effects that affect the economy for example through reduced demand for goods and services elsewhere in the economy. In many cases, those who are employed have demand for workers in the domestic services sector. Normal household income is deployed to supply and support family members' education and health needs, in addition to basic consumption requirements (see Kryticous 2009). They also invest and start small businesses. A loss of employment makes it difficult to continue to demand some of these services. It also leads to a loss of borrowing capacity leaving an individual and his or her family exposed and thrown into a difficult situation regarding providing for and accessing certain services. It reduces personal and family standards of living. Those who lose jobs experience a change in income status. This affects their capacity to support families and provide for basic requirements. Income enables one to purchase and provide food for their family. They are able to provide shelter and other requirements.

a) Tanzania

The evidence on redundancies and job losses as a result of the global financial and economic crisis is scanty but these occurred mainly in the agriculture estates, mining and tourism sectors. No comprehensive numbers for job losses have been released but indications of percentage declines and some specific enterprises related to losses were compiled. Lunogelo et. al. (2009) highlighted that employment income and employment of small-scale miners declined, as well as that of other indirect earners. It is indicated that for every miner there are three people employed to provide food and other services. Muro (2010) asserts that the sharp decline in the economy towards the end of 2008 and into 2009, led to a 27% reduction in employment as a result of reduced activities. Also a reduction in expenditure on mining exploration was projected to drop by 45% in 2009 over the 2008. This was expected in turn to lead to a 55% reduction in head count. These percentages regarding reduction in spending and head count translated to US$35 million and 750 people. There were indications of further job losses in the mining sector although no figures were given.

The Chamber of Mines and Energy outlined cases of mine closure, delayed or suspended investment and the concomitant redundancies associated with each activity. Some of these cases are reported in table 4.

Table 4: Some cases of job losses in Tanzania, 2008-2009

Company Name	Status	Action/Decision
Xstrata	Joint Venture Partner	450 retrenched
Tanzanite One	Rationalising operations with a view to reduction	Number of experts reduced by 33% and 37% reduction in expatriates' wage bill and 28% of local staff
Mukuju River Uranium	Placed under care and maintenance	Service providers reduced and 65% reduction on personnel

Source: Chamber of Mines and Energy (2009)

Three large multinationals companies closed operations and that went with hundreds of jobs. Cargill, an agriculture and food company whose business in Tanzania was in the cotton sector closed its operations. A Swedish Ethanol Chemistry AB in the energy business scaled down its operations. These were some of the cases of job losses related to the impact of the global financial crisis on employment in Tanzania. There were many others that probably went unreported. In addition, the impact of the crisis on farmers, the self employed as well as service providers added to lost income. The reduction affected demand for goods and services elsewhere in the economy whose impact added to the negative and adverse effects of the crisis. The impact was a reduction on spending, inability to maintain levels of consumption and standards of living. Others who had obligations such as servicing bank loans defaulted including traders in tea, cotton and coffee as a result of the crisis.

The government stopped the adjustment of the minimum wage that had been demanded by the unions after they realised that the crisis was having a severe impact on the economy. In the prevailing crisis conditions and government finances also facing an uncertainty, the economy would not have been able to carry the increment. Tanzania is one country which experienced inflationary pressures during the financial crisis. This development meant that the retrenched workers faced increased cost of living at a time when they did not have an income. It is a paradox that at a time when global economies were concerned about declining demand, there would have been pressure of rising prices. Tanzania also provided a fiscal stimulus in the 2009/10 fiscal year and relaxed monetary policy in an effort to encourage growth in aggregate demand.

b) Zambia

Transmission of the effects of the crisis to firms and households occurred through a number of key channels, including taxes. The mining industry was seriously affected and Zambia ended up on the World Bank's high exposure to risk category. Loss of employment is one feature of the global financial crisis and thousands of workers in Zambia joined the ranks of the unemployed. According to Matenga (2010), mining companies responded differently to the effects of the global economic crisis: some companies closed mining entities completely and placed others under care and maintenance; other mines continued operations but reduced the workforce. Another group neither closed nor effected any job cuts. Generally, since the last quarter of 2008, the mines in Zambia scaled down operations with some mines closing.

Those that shut down operations completely and/or placed their entities on care and maintenance include: Luanshya Copper Mines, Chambeshi Metals, Albidon Munali Nickel Mine, and Bwana Mkubwa Mine. The mining companies that continued with their operations but down-sized the workforce included Konkola Copper Mine (KCM), Mopani Copper Mine (MCM) and Kansanshi Mine. The only large-scale copper mining company that did not effect any labour downsizing is the Chinese-owned Non-Ferrous China Africa (NFCA) Chambishi Mine (ILO, 2009).

The comprehensive study by Matenga (2010) showed that job losses in Zambia's mining sector started to be felt in November 2008 and only eased sometime in May 2009. A total of 7,324 workers who were directly employed by mining companies (11.6% of total labour force in mining sector) lost their jobs. In addition, 11,915 workers employed by mine contractor companies, accounting for 18.8% of the total labour force in the mining sector, lost their jobs giving a total loss of 19,239 workers or 30.4% of the total labour force in the mining industry between June 2008 and June 2009 (excluding jobs gained). These losses are attributed to the impact of the global economic crisis.

The most direct impact of the crisis on people is the loss of employment and sources of income. In view of the job losses in Zambia, a UNICEF rapid assessment showed that women were working longer hours and that children were increasingly cared for by their siblings. These are some of the impacts that are not always identified in studies analysing the impact of crises. By the third quarter of 2009, however, some recovery was being recorded and with it some jobs were rescued.

The loss of employment and reduction in income also took another format. The global financial crisis altered certain conditions of work in the mining sector. In addition to termination of employment contracts by mining companies and contractor companies, workers at the mining companies had to forego salary increments during the crisis. This was a response to threats of job losses. Workers thus conceded wage increases that they had won and benefits in order to save jobs and incomes. The crisis thus reversed or stayed the implementation of freely negotiated collective agreements. These changes were occurring in an environment where the Kwacha exchange rate was rapidly depreciating, leading to increases in prices of some domestic and imported products. The only advantage was that the price of oil was declining substantially during the period which helped to cushion the impact of stagnant wages and a depreciating exchange rate.

Kryticous (2009) compared the monthly Kwacha cost of a basic needs basket between February 2008 and January 2009. The analysis showed that the household budget was made up of three parts: basic needs basket, essential non-food items and additional household costs such as cost of secondary school education including the cost of uniforms for those levels as well as the costs of providing certain aspects of health. Essential non-food items include such items as charcoal, bath soap, washing soap, jelly, electricity, housing and water and sanitation. The comparison shows that the monthly budget for basic needs basket for a family resident in Lusaka was at K1,870,650 in February 2008. The budget experienced marginal rises and falls in subsequent months. However, from October 2008 there were significant increases with monthly increases of more than one percent and a substantial increase in January 2009 of 13%. Overall between February 2008 and February 2009 the budget rose 17% to K2,199,880. This increase shows annual inflation on the household basic needs was 17%. However, incomes for selected groups of workers that were highlighted in the comparison were more static. Teachers' salaries varied between K1,145,300 and K1,631,600; nurses (K1,121,000-2,624,000); security guards (K300,000-750,000); and secretaries in the civil service (K915,000-1,480,000). On the basis of this evidence, many low income workers in Zambia were earning less than they required to cover their basic requirements excluding education and health costs. Further, monthly wages for certain categories were provided which showed the impact of the crisis on the income-consumption relationship. Wages lagged behind the rising cost of basic requirements.

4.3 Government revenue from commodity exports

The global financial and economic crisis impacted government revenue. The way this happened is that when economic activity declined, revenue that could have been collected in various forms was lost. Governments derive revenues from commodity exports either directly if they charge some kind of export taxes or indirectly through tax on company profits from companies engaged in the production of commodities for export and from tax on personal income for workers employed by commodity export producers. In countries that levy export duties, losses are directly proportional to the decline in earnings from exports because such duties are charged as a percentage of or a fixed amount on the values or volume of exports. In addition, company income tax charged on profit and service tax or value added tax charged along the value chain is lost. A fall in the production and export of a commodity will lead to a fall in the demand for inputs to the production and processing of exports along a particular value chain. For example, if the horticulture sector uses domestic packaging material, a fall in the volume of horticulture exports will lead to a decrease in the quantity of packaging materials that are demanded. This point highlights the secondary and multiplier effects of a reduction in the demand for export commodities. Further the decline in economic activity brings losses related to opportunities that are not exploited. The linkages between sectors could have provided further opportunities had the crisis not struck. The problem of reduced revenue earned from commodity exports can thus be much wider than is first apparent. Where governments lose revenue, they resort to deficit financing which brings about increased costs.

a) **Tanzania**

The fall in exports of commodities as outlined above suggests that fiscal developments during the first half of 2009/10 were characterised by lower performance against targets in revenues, while implementation of expenditure policies focused on mitigating the adverse impact of global financial and economic crisis on the economy.

There is evidence that the government finances in Tanzania were affected. In the first half of 2009/10 (July–December), government fiscal operations recorded total domestic revenue amounting to TZS2,306.6 billion equivalent to 7.4% of GDP which was below the target of 9.2%. Tax revenue collections were TZS2,196.5 billion or 7.1% of GDP, below the target of 7.7% of GDP. In the same period, foreign assistance in the form of programme loans and grants (including MDRI/MCA) amounted to TZS464.1 billion, equivalent to 58% of the budget estimates for the period. Projects and basket funds received during the period summed up to TZS334.6 billion, equivalent to 66% of the projected resources for the period. Government expenditure amounted to TZS4,361.5 billion or 14% of GDP where recurrent and development expenditures were TZS 2,893.2 billion and TZS1,468.3 billion respectively. The outturn of the government operations during the reporting period indicate a fiscal deficit before grants of 6.6%, being higher than that of 3.1% recorded in the corresponding period in 2008.

Areas under consideration include changes to the fiscal regime of the mining sector; non tax revenue and tax exemptions. The need to meet infrastructural challenges implied net domestic financing of 1.6% of GDP in 2009/10 and non-concessional financing, from both domestic and foreign sources, of up to 2% of GDP over the medium term.

b) **Zambia**

The crisis affected the tax revenue and increases in mining tax that had been anticipated were not realised. It was estimated that lost mining production and reduced exports, mining royalties paid, as well as lost income due to primary and secondary effects on employment, led Zambia to lose up to 22% of its government revenue between 2009 and 2010.

In response to the sharp falls in income, actual expenditures were sharply reduced from the 2008 level, with a serious deviation from budgeted targets. The government had to revise spending priorities for some social and development projects in the face of this.

Zambian tax information posted on the Zambia Revenue Authority website for the period 2005 to 2009 is shown on an initial target and actual performance basis for the years 2006 – 2008 (Table 5). For 2005 and 2009, there are columns that show an initial target figure, a revised target and an actual outturn. The actual exceeded the target in all the three years 2006-2008 and it was increasing. However, the revised target for 2009 was lower than the initial target indicating adjustment based on anticipated falls in revenue in the face of the global financial crisis associated with the commodity dependence. In other words the revision was out of the realisation that the target was too high given the conditions prevailing in the global economy and their impact on the Zambian economy. Trade taxes made up of import VAT, customs duty and export duty were revised downwards by 26%. Export duty had the biggest revision downwards amounting to 88% of the initial target. In addition, excise duty was also revised downwards. However, company tax, personal income tax, domestic VAT and mineral royalty were revised upwards. In other words, the global financial and economic crisis affected the amount of revenue that the Government of Zambia collected in 2009. This point is highlighted in a comment in the review of the fiscal performance by the Bank of Zambia which stated that

> 'Tax revenues were significantly below projections, largely reflecting lower trade taxes and donor inflows. Notwithstanding this, Government has recorded a lower budget deficit than programmed, mainly achieved through a substantial compression of expenditures. This will have adverse effects on the implementation of various social and infrastructural programmes envisaged in the 2009 budget.'

The impact of this reduction would have been felt on the activities that were being financed by government revenue from taxes. To identify which activities were affected, it is necessary to get a review of the 2009 budget. In the absence of that detail, it is reasonable to assume the government prioritised its activities and carefully selected where to implement the cuts. What is clear is that, faced with a declining budget, government expenditure, including the public sector investment programme, is seriously compromised.

Table 5: Tax Revenue and Targets by tax type (Kwacha Billion), 2005-2009

	2005			2006		2007		2008		2009		
	Actual	**Target (Revised)**	**Target (Initial)**	**Actual**	**Target**	**Actual**	**Target**	**Actual**	**Target**	**Actual**	**Target (Revised)**	**Target (Initial)**
Tax revenue	5,516	5,574	5,506	6,323	6,285	8,185	7,808	9,544	9,221	9,660	9,581	10,191
A. Income taxes	2,456	2,466	2,425	2,960	2,942	3,833	3,490	4,573	4,271	5,073	4,833	4,530
A.1 Company tax	448	448	445	695	671	1,223	985	1,353	1,376	1,376	1,180	1,104
A.2 PAYE	1,729	1,753	1,733	1,939	1,948	2,199	2,088	2,531	2,371	2,924	2,865	2,693
A.3 Withholding taxes	240	239	244	267	263	344	339	451	377	538	575	579
A.4 Mineral royalty	39	26	4	59	61	68	77	238	147	235	214	154
B. Excise duty	772	750	720	827	821	1,207	1,104	1,368	1,276	1,023	1,082	1,659
B.1 Other excise				811	821	1,188	1,099	1,348	1,276	780	821	1,326
B.2 Rural Electrification Levy				14	-	12	3	14	-	15	15	18
B.3 Fuel levy										223	240	309
B.4 Carbon Tax				2	-	7	1	7	-	6	6	7
C. Domestic VAT	623	695	611	558	596	25	532	-431	256	307	370	-454
D. Trade taxes	1,666	1,663	1,750	1,977	1,926	3,121	2,682	4,034	3,417	3,257	3,296	4,457
D.1 Import VAT	1,010	1,002	985	1,233	1,211	2,204	1,808	2,641	2,306	2,168	2,132	3,004
D.2 Customs duty	652	655	754	742	713	914	872	1,203	960	1,072	1,147	1,311
D.3 Export duty	4	6	11	2	2	2	3	190	151	17	17	142
Non Tax Revenue	6	6	6	7	6	9	7	13	9	19	18	17

Source: Zambia Revenue Authority

The actual revenue outturn in 2009 was higher than the revised target but lower than the initial. The source was achieved through the performance of company and personal income tax. Excise duty, domestic VAT and trade taxes yielded lower amounts than the revised target. However, the 2009 actual tax revenue was higher than the actual for 2008, but this was inadequate to finance budgeted expenditure. Moyo (2009) estimated that the budget deficit in 2009 would be 18.1% of GDP compared to a small surplus in 2007 (0.2%) and 2008 (2.6%).

The Zambia Revenue Authority compiles revenue statistics related to the mining sector which is called mining sector tax revenue (Table 6). There are six revenue lines of mining sector revenue payable in Zambia, viz. company tax (charged at 35% of profits), withholding tax on dividends, mineral royalty, export duty, personal income tax and a windfall tax. The windfall tax was paid only once in 2008 while the withholding tax on dividend was last collected in 2004. All the other lines on the mining sector tax revenue fell in 2009 compared to 2008. The largest fall was on export duty which fell 91.5%. However, in value terms the largest contributions are from company tax and personal income tax. These declined by 13.5 % and 23% respectively. This evidence can be linked to the decline in the performance of mineral exports. Hence, Government revenue was directly and indirectly affected by the global crisis.

Table 6: Mining sector tax revenues (Billion Kwacha), 2000-2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Company Tax	2	2	1	0	0	1	160	603	464	401
Withholding Tax/Dividends	-	-	1	2	3	-	-	-	-	
Mineral Royalty	4	7	3	8	4	39	59	68	238	235
Export Duty	-	-	-	-	-	-	-	-	178	15
Windfall	-	-	-	-	-	-	-	-	126	-
PAYE	28	43	99	122	217	252	290	436	596	582
Mining Revenue Total	33	52	103	130	224	295	509	1,107	1,602	1,232

Source: Zambia Revenue Authority

Management of the fiscal balance has been a major challenge during the crisis because of a poor fiscal mining tax regime which was made worse by the fact that overall tax revenue was declining relative to gross domestic product (GDP) over the years. On average, Government revenues were around 18% before the crisis and dropped to 15.6% in 2009. Tax revenues during the first three quarters of 2009 were much lower than during the same period in 2008. The prevailing fiscal regime for the mining sector leaves the government unable to generate sufficient revenues to meet its current and capital expenditures, despite the very high copper prices prevailing on the world copper market.

As a consequence of the budget deficit, the government needed to borrow an amount equivalent to 1.8% of GDP from the domestic market. The crisis thus interrupted a development where Zambia would have been able to balance its budget, a sound basis for pursuing the development of infrastructure. Fundanga (2009) observes that the dramatic decline in the price of copper led to reduced earnings from copper exports by mining companies and subsequently reduced earnings for the Government from mineral royalties and corporate taxes from this source as well as falling income taxes from employees in the mining and related sectors. This suggests a shortfall on Zambia's revenue collection compared with the budget. Following the chain reaction from a fall in demand and prices leading to reduced commodity export receipts, it stretches through to government taxes and revenue collection and eventually into the financing of the government budget. It has to be emphasised that the global financial crisis impacts were felt in Zambia from the second half of 2008.

4.4 Impact on Investment Expenditure

Investment is the act of establishing productive capacity. This goes on in the public as well as in the private sector. Governments invest in the development of productive capacities. However, sometimes they design policies that encourage investors to channel resources for the development of productive capacities. Productive capacities comprise productive resources, entrepreneurial capabilities and linkages between different productive activities. The sources of investment finance for the development of productive capacity can be domestic resources mobilised through tax and savings in the public sector. Governments can raise funds for financing through taxation on the domestic market, through borrowing on the domestic or international markets. The private sector raises finance through a variety of methods but is primarily financed from shareholders' contributions (equity) and borrowing. Generally, private investment plays a bigger role in the exploitation or extraction of commodities guided by the profit motive. Governments set policies that enable them to attract investors into their economies as part of strategies for increased investment and growing economic activity. The movement is now towards collaboration between government and the private sector. Public-private partnerships (PPP) are becoming a popular means of generating resources for investment. The government's focus and interest is to ensure that productive capacity is developed. This combined with favourable policies will attract private investors, both domestic and foreign to invest in growth generating creating productive capacities.

Other sources of finance for the provision of publicly supplied productive capacities are official development assistance through budget support or project specific aid. The productive capacity developments that are normally funded from these sources are health, education and infrastructure. Government spends on or invests in construction of road and other infrastructure which help the growth of trade. In the case of public financing, this is funded through the government budget. It is easy to understand why the decline in export earnings from commodities lead to a reduction in government revenue which constrain it in pursuing planned expenditure. The responsibilities of government in investment are to ensure the adequate supply of public goods. Given that during the crisis, government revenues were declining, reprioritisation including budget and expenditure cuts effected by governments hit expenditure plans.

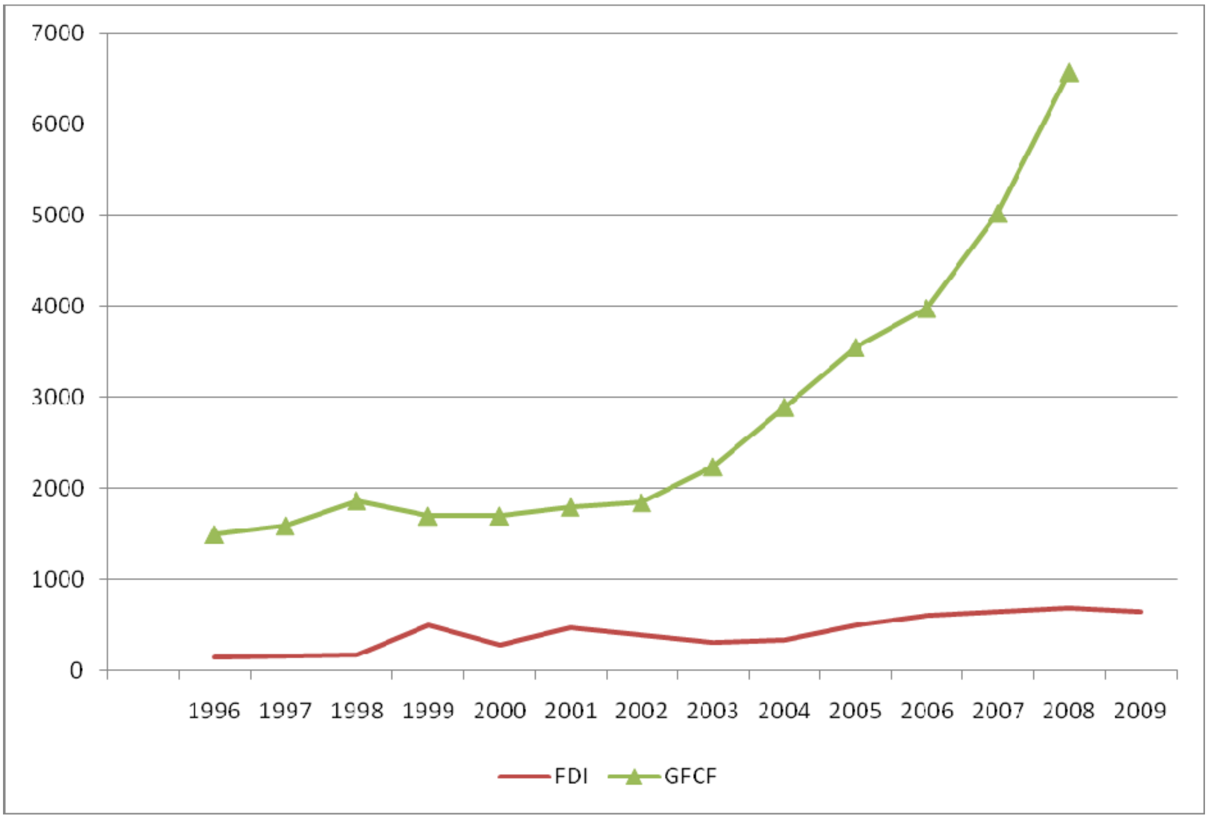
a) Tanzania

Analysing the impact of the global financial and economic crisis on investment in Tanzania, in the context of commodity dependence, the focus will be on activities in the mining sector. The other commodity sector, agriculture is, largely self-financing since it is dominated by small holder farmers. The farmers sometimes obtain seasonal credit to support their activities. The Government supported the small scale sector during the crisis by providing subsidised inputs which were instrumental in increasing production. Not much investment goes on in the agricultural sector. However, the large scale commercial or estate agriculture sector invests substantial amounts of money to expand their operations. In the case of Tanzania, the interest in producing bio-fuels attracted firms to invest in growing sugarcane.

There was a reduction in domestic and foreign direct investment (FDI) that is likely to affect both the short and long runs. Foreign investors use investment resources that they raise from banks and financial institutions as well as venture capital funds. Because these sources were at the centre of the financial crisis through their connection with the financial markets, the supply of investment funds was affected.

The trend for FDI in Tanzania has been mixed and, in 2009, there was a 5% reduction on the 2008 FDI performance (see chart below). According to the Tanzania Investment Centre, reported a 30% decline in the value of new investments in the first half of 2009 compared to the same period in 2008 (Lunogelo, et. al. 2010). This primarily attributed to a number of multinational companies that decided to close operations, suspend expansion activities including exploration. This reduction is ascribed to the impact of the global financial and economic crisis. FDI flows to Tanzania are channelled towards capital intensive activities in mining, oil and gas exploration which are by nature risky. As a result, when resources are scarce or expensive, there is pressure to reduce, suspend or cancel expenditure. Some firms will also be focussing on their internal problems, thus limiting expansion activities to foreign countries including Tanzania.

Figure 6: Tanzania Investment and GCCF Trends (current US$ million), 1996-2009



Source: UNCTAD data (2011)

Multinational companies in agriculture, mining and energy closed their operations as a result of the economic slowdown while other companies postponed investment in new projects. SEKAB BioEnergy Tanzania Limited based in Rufiji and Kilwa towns in eastern Tanzania laid off employees, and sold its production facilities. This is supported by evidence obtained from communication by the Chamber of Mines and Energy which outlined some of the impacts of crisis on investments in the mining sector. Table 7 below provides details related to mining sector investment.

Table 7: Some investment adjustments in mining

Mine or Investor	Initial Plans	Decision type
Barrick worldwide - owns 3 mines in Tanzania	Projected to spend US$15 billion on projects in the pipeline over the next 6 years	Reduced by US$1 billion which will affect exploration, operations and expansion plans
Resolute		Stopped nearly all capital expenditure and took steps to delay expenditure
Kabanga Nickel	Completed Pre-feasibility; planned to proceed to Feasibility at a cost of US$70 million.	There was a slowing down on the progress although a decision to go ahead with the investment at a slow pace was made

TanzaniteOne		Lower demand for luxury goods; suspended all capital and exploration spending
Mkuju River Uranium		Placed under care and maintenance
Swedish Ethanol Chemistry AB (SEKAB)		Decided to scale down its investments

Source: Chamber of Mines and Energy (2009)

Further evidence that mining sector investment declined was provided by the data on the applications for mining licenses where between January and April 2009 only 15 licenses were granted compared to 224 licenses that were processed and granted in the whole year in 2008. In terms of exploration expenditure, 2009 experienced a 45% drop compared with 2008. However, there was resurgent activity in the sector when prices of mineral commodities recovered and strengthened.

Uncertain availability of risk capital was further aggravated by falling global mineral commodity prices including those for minerals such as nickel, uranium, copper and platinum group metals (PGM) which were the subject of intensive exploration in Tanzania. Lunogelo et. al. (2010) highlight the sharp fall in the price of nickel from 13 US$/lb in November 2007 to around 5 US$/lb in November 2008; the fall in the price of uranium from 135 US$/lb in July 2007 to 53 US$/lb in November 2008; the fall in the copper price from 3.0 US$ /lb in November 2007 to 1.5 US$/lb in November 2008; and developments in the price of platinum which was around 1,425 US$ per ounce in November 2007 before it peaked at US$ 2,250 per ounce in February/March 2008 and gradually declined to 825 US$ per ounce in November 2008. All these declining prices served to sow the seeds of doubt and provided grounds for investor pessimism and reason to withhold investment. Contracting capital and debt markets where early stage explorers and developers source funding, forced companies to take drastic measures to cut costs; from cutting back development activities and planned capital expenditure in order to reposition their businesses to mitigate and cushion the effects of the downturn.

The IMF (2010) estimated that investment in Tanzania was at 29.6% of GDP in 2007, 29.8% in 2008 and that it fell back to 27.8% of GDP in 2009. The share of Government investment was 7.2%, 8.2% and 10.3% of GDP over the corresponding years. Public sector investment was curtailed by lack of resources. For example, total government expenditure during 2008/09 was 17.3% of GDP, out of which recurrent expenditure was 11.7%, leaving a small proportion for capital or development expenditure. The government invested in a fiscal stimulus package to ensure the economy continued to be active against the pressures for reduced economic activity. It even borrowed to support a number of projects that had been started before the onset of the crisis. The huge demand for infrastructure development implied increased requirements in the face of revenues that were falling. Infrastructure remains a major requirement in Tanzania that will help internal integration and boost production and trade.

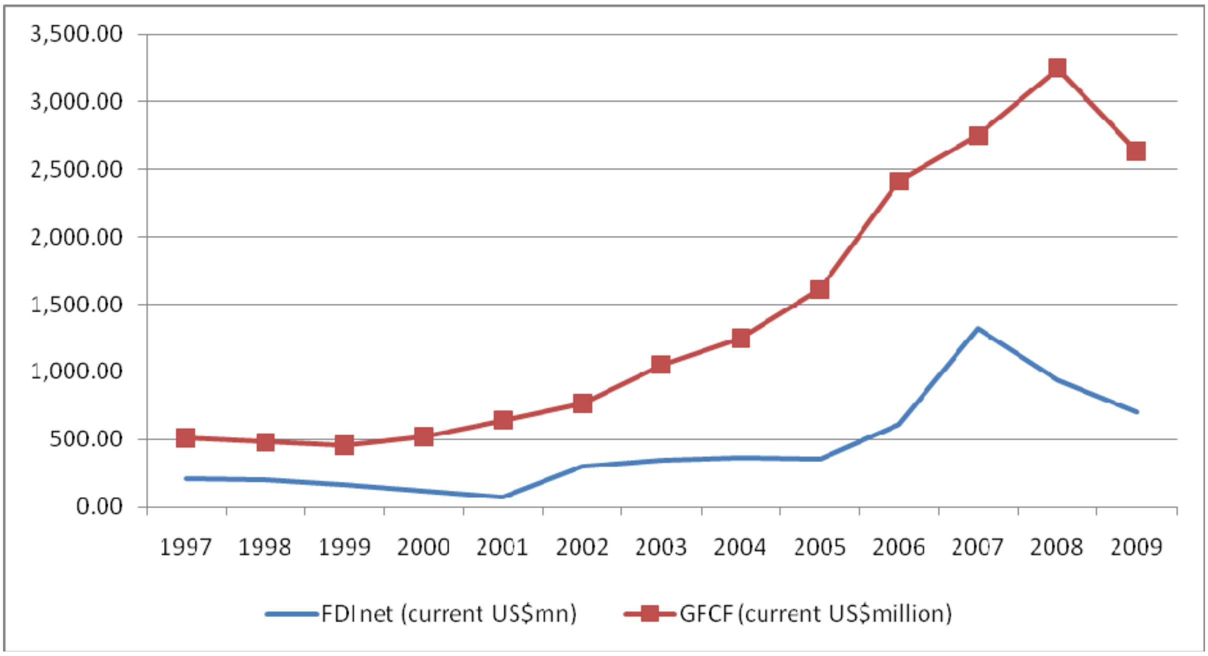
The Government had plans to develop infrastructure financed by raising USD 500 million on the international financial markets which was scuttled by the global financial and economic crisis. The threat arose from the potential interest rates or failure to attract adequate support. To continue with its plans for infrastructure development, the authorities provided Tsh 205 billion in the budget that would be raised through a long term local bond issue (Lunogelo, et. al. 2009).

b) Zambia

Zambia’s investment performance was positive and trended upwards from 2002. Both the gross fixed capital formation and foreign direct investment were on the rise (see Fig. 7). It was boosted by investment in the mining sector which experienced a dramatic recovery in response to high global prices and as a result of massive investment due to privatisation. Investment in the mining sector came through projects such as Lumwana Mining Project in the North Western Province. The Lumwana Copper Mine was expected to reach peak production in 2009 when it would be expected to be Africa’s largest copper mine with production averaging 172,000 tonnes per year.

The global financial and economic crisis set in motion investment and operational reviews in the mining sector in an attempt to reduce costs of production and stay in business. Some of the responses were to increase production in response to declining export receipts on account of falling prices, decrease production, reduce capital expenditure to minimum sustainable levels, increased focus on core activities to reduce the use of contractors and reduce non-core labour (Kryticous, 2009). The reduced export earnings for the mining sector also translated into lower investments through suspension of new projects which were dependent on retentions as in the case of the Uranium Project owned by Albidon Mines. Further, some mining companies such as First Quantum and Makambo Copper Mine, which were carrying out exploration works, discontinued all new exploration activities. Konkola Copper Mines, the largest copper mine in Zambia ordered a 40% reduction in all supplier contracts. All these responses regarding investments generated a second level of repercussions through multiplier effects.

Figure 7: Zambia Investment Performance (Current US $ million), 1997-2009



Source: UNCTAD database (2011)

The Kafu Gorge Dam Project estimated to cost US$1.5 billion was delayed and kept in abeyance because of the uncertainty about intentions of several investors who would benefit from it due to the decline of copper prices. Despite the depreciation of the kwacha, there was no dramatic impact on the competitiveness of non-traditional export sectors, a factor attributed to infrastructural constraints related to transport, telecommunications and financial services (Ndulo et. al., 2010). However, with declines in commodity export earnings especially copper and cobalt, the short fall in the government budget on account of the recession following the global financial crisis, made it difficult for the government to pursue its investment plans.

4.5 Resilience of countries or sectors

The case study countries' GDP managed to attain positive rates of growth albeit at lower rates in 2009. The contributions of commodity exports declined as a result of the global financial and economic crisis. Growth of the Tanzanian economy in 2009 was 5.5%. The financial crisis caused a reduction from 7.5% in 2008. Tanzania has broadened its exports base, which was boosted by the production of gold and an increase in exports of manufactures into the East African Community. Growing the regional market and strengthening integration is a commendable strategy which can work well in times of crises. The Zambian economy achieved GDP growth of 4.3% in 2009 compared to a 6.9% growth achieved in 2008 in spite of the sharp fall in the price of the country's main commodity, copper. The threat arising from the continued dominance of copper exports cannot be overemphasised.

In Tanzania, exports of non-traditional commodities have increased. Gold, tea and horticulture exports increased even during the global financial and economic crisis. More such exports would strengthen the capacity of Tanzania to withstand the impact of external shocks such as the financial crisis without too much reduction in its growth performance.

Foreign direct investment continued to flow into the countries although, as shown in the previous section, this declined. The countries appear to have been attractive destinations of foreign direct investment. Over the period 2000-2008, FDI grew at an annual average of 57% while in Tanzania FDI growth averaged 15% per annum.

It is important to note that diversification helped the Tanzanian economy to be more resilient and the lack of diversification made the Zambian economy less resilient. However, GDP growth performance of the two countries shows that Zambia remained stable growing at 6.3% both in 2008 and 2009 while Tanzania grew at 5.5% in 2009 compared to 7.5% in 2008[6]. These figures raise questions about resilience of the Tanzanian economy especially when compared against that of an economy with a single dominant export like Zambia which appears to have held up well in the face of the financial crisis. These questions are valid and legitimate basing on GDP growth experiences of the two countries. However, analysis of Zambia's performance shows that Zambia had to export increased volumes (about 50% more since 2009) of copper and cobalt while receiving a little less income on its exports (US$ 4,312 million in 2009 compared to US$ 5,099 million in 2008[7]). Thus while Tanzania was more resilient, the existence of capacity and Zambia's ability to increase production and exports in response to the impact of the financial crisis is a strong point explaining GDP growth performance.

5. Conclusions and lessons learned

Commodity exports performance in commodity dependent countries declined in 2009, in some cases falling sharply, as demand and prices fell due to the global financial and economic crisis. Among the commodity exports, oil and mineral commodities appear to have been affected worse than the others. The impression

[6] UNCTAD Handbook of Statistics 2010.
[7] Idem

created is that mineral commodities fell in the category where consumption and hence purchase could be postponed and thus their demand on international markets fell sharper than that of other sectors. This appears to confirm the fact that commodity price volatility has a negative impact on export earnings. Related to the fall in commodity exports earnings was the reduced real GDP growth during the crisis. Companies involved in commodity production and export in the case study countries closed their operations and in some cases reduced their operations to mitigate losses related to commodity production and export. The two countries studied still experienced some positive real GDP growth which was below forecast. It is not clear whether this outcome can be attributed to some elements of resilience or that the process over which the crisis occurred spanning less than two years was not prolonged.

One of the major impacts of the global financial and economic crisis was the loss of jobs for the people directly engaged in commodity production and trade and those of associated activities as companies closed or reduced operations to cut costs. Both in Tanzania and Zambia, more jobs losses occurred in the mining and mining support industries. Export oriented agriculture also experienced loss of jobs, more in Tanzania than in Zambia. However, the group of self employed agriculture producers experienced income losses whose impact was much wider. In both mining and agriculture, job losses related to the global financial and economic crisis extended beyond the immediate industry limits because of the links those in employment have with the wider economy such as domestic services.

Employment income changes affect the capacity of households to provide adequately for the requirements of their families and forces people to go without some of their consumption requirements as a forced adjustment on expenditure which might have the overall effect of changing development prospects and opportunities for whole sections of the population that are hit by such crises. Although governments moved to protect the vulnerable sections of the population, the efficacy with which they did this raises questions given that there are no known institutions with a reach to the levels affected most. There are no monitoring mechanisms and governments appeared not to know how to effectively deal with the effects of the crisis.

The crisis also exposed some important challenges that mining-dependent countries still face, primarily those in relation to fiscal policy (ODI, 2010a). Government revenues in both countries declined under the impact of the global financial and economic crisis. In particular, revenue derived from commodity exports and related activities declined. Such declines were expected in line with the fall in commodity exports and their effect on performance at national as well as at company levels. Governments did not seize the opportunity to change tax policies during the crisis. However, if anything, there is a serious need to reform taxes. The revelations or lessons from the crisis should spur the governments into reforming their tax policies.

The decline in revenue undermined governments’ capacity to spend, especially on vital requirements such as infrastructure. In fact governments resorted to borrowing to provide support for continuation of projects and programmes that had started before the outbreak of the crisis. While the focus of governments was to maintain macroeconomic stability, their having done this over a couple of years has left some areas of development such as infrastructure development not receiving adequate attention. The economies are in dire need for infrastructure as a necessary input into the development of their economies and especially to achieve domestic integration that is vital for production and trade of produced goods in order to reduce losses.

There has been limited diversification of exports in commodity dependent countries which leaves these countries vulnerable to severe crises that affect the lead export sectors. There is a difference in this regard between the case study countries. Zambia is still extremely reliant on a single export – copper. To an extent, Tanzania has some elements of diversification in the range of export minerals the majority of which are in precious stones and gemstones. Also the range of agricultural exports is varied. On the whole, the contribution of non traditional exports in Tanzania has grown, especially with the growth of gold exports, although many of these are still very much primary production based. In addition, fish and horticulture exports were clearly very resilient to the crisis. This diversity of exports offers a window of opportunity to venture into transformational and value addition processing of agriculture and minerals in order to increase export proceeds, provide secure employment and protect revenue sources in times of crisis.

Investment was severely affected. Evidence showed that FDI declined and the approach of investors was to minimise losses. The problem was about where they source the resources for investment. This gives economies an opportunity to review arrangements for financing business. The banks in their territories appear unable to shoulder or to provide the capital required. There may be a case to require a proportion of the capital requirements to be sourced locally. In a way, it may also be time to regulate the level of ownership and shareholding of resource based enterprises to include local business or localisation. This would reduce the burden of the decisions made in times of crisis.

6. Policy Recommendations

1. Commodity dependence and commodity price volatility which affected many countries will remain for some time, but some countries, including LDCs, can develop on the basis of export earnings from commodity production. However, their continued exploitation should be the basis on which governments develop strategies to diversify production and export. Governments of LDCs should use commodity export proceeds to develop strategies for transformational shifts along a commodity value chain, including through value addition.

2. Agriculture and mineral exports have been bases for the development of agro-based and mineral processing manufacturing industries. There is scope in both countries to develop manufacturing industries and export processed minerals and agriculture products. This would improve the prices earned on exports, protect domestic employment against the vagaries of variable commodity export prices and increase investment adding to economic growth. The design of policies should include incentives for development of manufacturing industries that add value to commodities through processing as part of diversification strategies among LDCs. LDC governments must establish institutional frameworks that support manufacturing-based medium, small and micro-enterprises and promote growth through the creation of clusters.

3. Tanzania's exports to the region were not affected by the global financial and economic crisis. Instead they were growing and to an extent provided critical support for performance of the Tanzanian economy during the crisis. This is an important basis for pursuing regional integration which promotes the growth of intra-regional trade. However, some products will not find markets within the region. This requires that LDCs' approaches to regional integration be the basis for collective action to enter developed country markets through promotion of production and export of finished goods in order to earn increased value for their processed commodities. Value addition should be considered through the processing of diamonds, tanzanite and other gemstones in Tanzania and the processing of copper in Zambia.

4. There are major constraints to production and export hampering LDCs from achieving their growth potential. Infrastructure stands out as a major challenge to tapping whole countries for and reducing responsiveness to changed conditions. LDCs should continue to grow investment in the development and expansion of infrastructure. Governments should develop policies to promote public-private partnership as a strategy to increase the pace of development of their infrastructure.

5. The case study countries faced revenue shortfalls occasioned by declines in commodity export prices and export earnings as a result of the global financial and economic crisis. These turned out to be budgetary shortfalls that required reprioritisation of expenditure but in some cases had the effect of stopping the development of planned projects and expenditure that should have provided a stimulus to economies in stagnation. There is an important need to review tax policies to ensure that the primary commodity export sectors contribute to the fiscus in a way that allows governments to continue to provide support even in times of crisis. Commodity prices were increasing in the period prior to the global financial and economic crisis. During times such as those, governments should build capacity to continue with investments and the provision of services when conditions change.

6. Both Tanzania and Zambia did not change their views and approaches as regards the value of FDI even during the crisis. It is essential that LDCs re-commit to private sector led and public sector supported growth. There is a need to support private sector development activity and enhance its competitiveness. This requires establishment of appropriate institutions and development of policies that remove barriers to doing business and create a conducive environment to the growth of the private sector.

7. One of the strong points about the case study countries is that neither country depends on food imports to an extent where the imports would have been a burden during the global financial crisis. This would have imposed an extra burden on falling export earnings. It is important that, given the capacity for the development of agriculture, LDCs should ensure food security through promotion of agricultural

production by encouraging the use of technological developments in the sector to increase productivity and increase returns especially for the small holder farmers. This can also serve as a strategy for diversification of production and growth of exports.

8. Economies grow mainly through expansion of production. A major driver that can push growth is the growth of domestic demand. Countries should encourage growth of their domestic markets as drivers of growth and bases for growing their production. This strategy can help weaken the impact of external shocks and insulate commodity export producers.

9. Both Tanzania and Zambia received support during the global financial and economic crisis. A combination of domestic resources and aid inflows was essential to keep these countries going even in the face of the crisis. It is therefore critical to ensure that adequate flows of development aid are received by LDCs unable to continue financing key activities during low activity periods. There could be ways of providing extra support to LDCs in times of crisis so that they can avail assistance that keeps them running before too much damage is done.

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Annex Table1: Tanzania Quarterly Export performance

	Q1 08	Q2 08	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10
Traditional exports	116.3	42.9	94.7	163.8	152.9	77.5	72.3	165.7	159.7	54.2	107.9
Non Traditional exports											
Gold	248.6	27.2	238.1	172.4	190.4	223.8	343.0	317.9	338.1	384.4	367.8
Diamonds	6.4	3.4	4.7	5.7	0.5	8.5	4.6	5.2	3.8	3.5	0.5
Other Minerals	8	11.8	18.0	5.1	2.9	4.3	6.0	6.6	5.3	10.7	11.3
Fish and Fish Products	30.2	38.4	41.0	31.9	30.6	27.5	38.9	30.6	36.0	32.0	31.8
Horticulture	6.0	6.4	8.3	9.9	9.8	8.4	6.9	8.6	9.9	7.6	5.7
Grand Total	**617.9**	**558.3**	**745.3**	**766.9**	**554.7**	**517.6**	**747.7**	**801**	**799.7**	**792.3**	**986.9**

Source: Bank of Tanzania Quarterly Economic Bulletins (2008-2010)

Annex Table 2: Quarterly production of gold and diamonds in Tanzania

	Q1 08	Q2 08	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10
Gold (Kgs)	8,308.08	9,107.35	8,413.90	6,277.17	6,387.71	7,325.70	10,988.19	7,583.20	8,760.90	9,468.8	8,326.30
Diamonds (Carats)	44,615.15	30,473.98	31,317.87	35,379.1	3,621.51	87,071.24	28,691.09	28,226.9	25,595.50	21568.4	9923.7

Source: Bank of Tanzania Quarterly Economic Bulletins (2008-2010)