

## **BOTSWANA A MONO-DIAMOND ECONOMY OR NOT?**

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### **ABSTRACT**

*Botswana is a country known for being the world's largest producer of diamonds in value. The product contributes substantially to the country's GDP and revenues. It is the major single export of Botswana. However, diamond is a non-renewable natural resource. This article is intended to establish whether Botswana has any comparative advantage in other products other than diamonds in order to have sustainable development beyond mining of diamonds.*

**Keywords:** Comparative advantage, Botswana after diamonds

### **1.1 INTRODUCTION**

Botswana was a dusty poor country in early 1960s with heavy reliance on subsistence agriculture. The country was relatively unknown then. However the fortunes of Botswana changed with the discovery of diamonds. Botswana is situated in Southern Africa. It is a founder member and hosts the headquarters of the Southern African Development Community (SADC). On the political front, Botswana was one of the frontline states which contributed a lot towards the attainment of independence in Zimbabwe, Namibia and South Africa. It sheltered refugees from Rhodesia, South Africa and South West Africa. It was often raided by apartheid regime from South Africa. It is also a member of Southern Africa Customs Union (SACU) and the Commonwealth. With the new found wealth of Botswana through mining diamonds, this paper explores whether Botswana will be able to sustain development after the diamonds have been exhausted.

### **1.2 DISCOVERY OF DIAMOND AND ITS IMPACT ON BOTSWANA'S ECONOMY**

DeBeers a South African company discovered diamonds in the late 1960s in Orapa (US State Department, 2011; Botswana Diamonds, 2011). Then a joint venture company was created by DeBeers and the government of Botswana. They created the Debswana Company on 50-50

joint venture. The first mine was operational at Orapa in 1972 (Botswana Diamonds, 2011; Mbendi, 2011; US State Department, 2011). The diamond mining has been to a greater extent a single entity which has transformed Botswana from being agricultural economy in the 1960s to a relatively prosperous country which has consistently achieved the highest economic growth rates in the World (Mbendi, 2011; Mohohlo, 2011). Currently one half of the people of Botswana reside in the rural areas practising subsistence cropping and livestock farming. However, agriculture is not an important sector like in other Sub Saharan Africa. That means Botswana cannot feed itself as agriculture contributes a small portion to food requirements and further only contributes 2.3% of GDP arising from beef exports (US Department, 2011)

Debswana is the global largest diamond producer in terms of value since 1980s. It currently operates mines in Jwaneng, Orapa, Lekakane and Damshahaa. Debswana uses open pit mining methods (Mbendi, 2007; US State Department, 2011). Debaswana produce polished diamonds (Botswana Diamonds, 2011). Debswana is Botswana's largest employer (non-governmental), contributes 70% of the country's exports earnings, contributes 30% of GDP and is a source of 50% of government revenues (Mbendi, 2011). However, according to US State Department (2011) employment levels in the mines are limited due to heavily use of mechanization. DeBeers has helped to build infrastructure such as roads, hospitals and schools in Botswana (Botswana Diamonds, 2011).

In May 2006, DeBeers and the government of Botswana established another joint venture on 50:50 basis known as DTC Botswana. This joint venture is responsible for making aggregated diamonds for sale in domestic manufacturing (Mbendi, 2011).

The role played by diamonds in development of Botswana can be seen in all angles as self evident (Mohohlo, 2011). Diamond mining operations will continue to play significant role in Botswana's economy with current known reserves enough to last next 20 years (US State Department, 2011). The question is what will happen to Botswana when this non-renewable resource is exhausted and there are no further discoveries? This paper attempts to establish whether Botswana has comparative advantage in other products which may take over and maintain prosperity of Botswana.

### **1.3 GENERAL ECONOMIC PERFORMANCE OF BOTSWANA**

Botswana has been consistently applied sound macroeconomic policies and good governance (Mohohlo, 2011). Economic records show Botswana has had a rapid economic growth totalling almost four decades. This performance has a few similarities in current economic history. The most visible one is that Botswana has not been a victim or self inflicted (succumbed) to resource bad side (curse) which has in many cases affected and derailed other

natural resource endowed countries (Mohohlo, 2011). Table 1 below shows real GDP growth rates in Botswana.

**Table 1: Real GDP growth rates of Botswana (1980-2010)**

YEAR	GROWTH RATE	YEAR	GROWTH RATE
1980	11.75	1996	4.44
1981	8.44	1997	9.73
1982	11.90	1998	10.37
1983	13.61	1999	9.84
1984	9.23	2000	5.89
1985	7.34	2001	3.49
1986	8.22	2002	8.96
1987	12.22	2003	6.31
1988	18.40	2004	5.96
1989	12.56	2005	1.63
1990	7.13	2006	5.12
1991	7.42	2007	4.81
1992	3.00	2008	3.12
1993	1.92	2009	-3.65
1994	3.63	2010	8.56

1995	8.01		
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**Source: UNCTAD STAT (2011)**

Table 1 above shows very impressive record of GDP growth rates of Botswana. Botswana has achieved the rapid growth rates in per capita income in the world since gaining independence from Britain. The real growth rates have averaged 9% per year from 1967-2004. However, there was slowdown during 2005, 2007 and 2008 before slumping to -3.65 in 2009. In 2010 real GDP grew by 8.56 (US State Department, 2011). Table 2 below shows foreign direct investment (FDI) inflow into Botswana.

**Table 2: Botswana FDI inflows in US\$ million (1980-2010)**

YEAR	AMOUNT	YEAR	AMOUNT
1980	689	1996	1058
1981	787	1997	1173
1982	803	1998	1295
1983	832	1999	1387
1984	894	2000	1827
1985	947	2001	1388
1986	1018	2002	854
1987	1131	2003	1167
1988	1171	2004	982
1989	1231	2005	805
1990	1309	2007	1946
1991	1301	2009	1405
1992	1300	2010	1299
1994	998		
1995	1125		

*Source: UNCTAD STAT (2011)*

Table 2 above shows significant FDI inflows into Botswana. This picture supports Mohohlo (2011) who states that Botswana has good governance record. FDI is very sensitive to governance indicators (Mzumara, 2011b). It is not known whether FDI went to the vibrant mining sector alone or there are other sectors which have benefitted. According to Lipsey and Chrystal (1995) FDI links domestic economy with foreign, transfers superior management skills and alters terms of trade of a country and comparative advantage and improvement in competitiveness via technology transfer. This paper will attempt to establish whether Botswana has comparative advantage in other products other than diamonds

#### 1.4 METHODOLOGY

The paper employed the technique developed by Balassa (1965) the Revealed Comparative Advantage (RCA). The Commission of the European Communities (1990) used the RCA to analyse and evaluate the sectoral impact while preparing to introduce a single market. Richardson and Zhang (1999) used RCA to analyse the United States economy for variations of patterns across time, industries and states. Yue (2001) also used the RCA index to show that China altered its export pattern inline with its comparative advantage. Mirzaei, Yazidani, Mostafavi and Gharahdaghi (2004) used the RCA to examine the comparative advantage of chicken meat export of Iran to the Middle East. Batra and Khan (2005) used RCA to analyse comparative advantage of India and China. Krugell and Matthee (2009) used the same technique to establish performance capabilities of South African regions through exports. The technique is very reliable and Mzumara (2011a) used it to find out whether Zimbabwe was competitive. Mzumara (2011b) has also recently used it in Mozambique's case evaluating its performance. The following is the formula;

$$RCA = (X_{Botswana\ j} / X_{w\ j}) / (X_{Botswana.tot} / X_{w.tot}) \text{ for } 2001 + RCA \text{ for } 2002 + RCA \text{ for } 2003 + RCA \text{ for } 2004 + RCA \text{ for } 2005 + RCA \text{ for } 2006 + RCA \text{ for } 2007 + RCA \text{ for } 2009 + RCA \text{ for } 2010/9$$

Where

$X_{Botswana\ j}$  denotes Botswana's exports of commodity j

$X_{Botswana.tot}$  denotes Botswana's total exports

$X_{w\ j}$  denotes the world's exports of product j

$X_{w.tot}$  denotes total exports in the world

The paper used Trademap, International Trade Centre (ITC) trade statistics of harmonised 6 digit level, the most accepted international product classification to compute Botswana's RCA index for 2001 to 2010 except 2008 (due to dearth of data on Botswana) and then obtained the overall average. This is much disaggregated than 4 digit level used by Mzumara

(2011a) but same digit level with Mzumara (2011b). An RCA equal or greater than 1 indicates a country has revealed comparative advantage in the product.

### 1.5 PRESENTATION OF THE RESULTS

5403 product lines were examined and their RCA computed for each year from 2001 to 2010 except 2008. Then average RCA for 9 year period was computed to arrive at an overall RCA for a particular product. Only products which had RCA equal or greater than 1 are reported in table 3 below.

**Table 3: RCA results for Botswana**

HS	2001 RCA	2002 RCA	2003 RCA	2004 RCA	2005 RCA	2006 RCA	2007 RCA	2009 RCA	2010 RCA	AVERAG E RCA
020529	22.45	25.89	18.56	12.24	14.30	16.36	20.75	27.01	30.74	20.42
020610	251.66	283.43	142.25	154.19	175.10	229.32	276.41	309.53	270.4	2.33.05
030350	0.20	1.58	0.76	1.80	0.18	2.56	34.92	0	0	4.67
050290	0	10.63	0	0	0	0	0	0	0	1.18
070890	0	0.55	0.32	0	1.0	0.24	0.36	8.00	6.18	1.85
071010	0	0	0	0	10.10	3.67	0.07	1.02	2.41	1.92
081340	0.11	0	0	0	0.03	24.47	0.22	0	0	2.76
090190	6.38	44.18	80.33	14.14	1.26	0.98	0	0.07	0.10	16.38
090300	58.88	21.89	7.50	8.62	7.98	8.87	6.14	6.34	1.98	14.24
091099	2.20	22.82	4.67	37.85	3.08	0.05	2.58	2.21	6.26	9.08
100610	1.74	6.03	0.07	0.18	0.18	0.06	0.03	14.57	25.92	5.42
110419	0.09	1.96	0.59	1.09	1.24	0.35	0.20	5.28	15.13	2.88
110430	0.51	6.74	0.04	0	0	0	2.03	30.03	9.19	5.39
120730	0	0.69	0	5.17	8.36	1.00	0	0	0	1.69
120890	30.37	21.30	16.87	10.60	43.07	11.83	58.09	24.59	131.94	38.74
121230	0	0	0	2.29	0.36	0	0	54.35	0	6.35
151229	6.77	7.55	0	7.63	5.84	17.08	24.70	13.16	59.51	15.80
152190	13.79	31.29	0.51	0.53	0.14	0.13	1.38	8.68	6.36	6.98
170410	4.36	6.69	0.10	2.86	2.58	2.45	4.56	4.59	2.01	3.36
190300	0	0	0.11	0	5.08	13.17	0	0	0	2.04
200540	43.03	141.55	115.30	135.66	111.0	146.04	77.69	171.03	222.27	129.17
200551	0.87	0.92	4.45	5.69	2.39	4.25	3.24	3.00	2.83	2.04

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200931	0	1.75	3.37	2.51	2.70	2.06	1.10	0.24	0.74	1.61
200949	0	71.01	34.38	25.05	18.22	23	6.5	1.62	0	19.98
200950	2.28	9.30	7.84	22.26	24.82	66.21	30.81	64.73	61.28	32.17
210320	9.77	10.47	5.20	12.00	14.36	7.60	5.16	0	0	7.17
230220	0.18	0	0	57.28	0.14	0.07	0	200.26	79.53	37.5
230649	0	2.57	5.37	4.95	2.36	2.51	0.8	3.26	5.30	3.01
240290	0.39	0.28	7.15	0.54	0.13	1.36	0.39	11.04	4.92	2.91
250629	0.19	0.11	0	0.06	0	0.44	0	327.05	33.32	40.13
250840	0.20	0.28	0.02	0.49	8.52	14.056	14.22	72.23	55.37	17.14
251110	1.49	0.01	0.08	18.83	2.26	15.28	7.13	43.33	29.53	13.10
251319	0.46	5.08	1.64	0.40	0.32	0.88	60.38	2495.36	697316.2	284.95
251611	0.31	0.36	0.45	0.16	0.10	0.06	0.33	3.05	5.38	1.13
251622	0	0	0.29	0	0	0	517.11	17.26	17.26	59.41
252230	204.73	127.92	45.34	120.09	67.22	42.36	136.72	72.29	230.04	116.30
252330	4.4	20.97	0.58	21.36	5.53	26.02	26.55	28.78	5.06	15.46
261790	7.61	2.46	0.87	1.63	2.24	0.74	5.81	35.65	1.91	6.55
270500	0	0	0	0	107.62	0	0	24.75	836.52	107.65
270900	0	0	1.47	4.84	4.48	8.61	2.41	4.04	2.89	3.19
271011	86.35	0.42	0.02	0.32	0.28	0.37	0.11	0.32	0.28	9.83
271019	0	5.59	3.98	3.63	3.37	0	0	0	0	1.84
271121	3.62	8.92	3.23	0	0	0	0	5.75	0	2.39
282680	0.73	10.56	21.82	4.03	2.00	8.67	7.10	152.28	26.01	25.91
283650	0	0	0	69.37	1.95	202.62	726.33	400.47	199.32	200
283699	2.47	0	0	0.03	0.01	0.02	46.03	66.79	310.92	47.36
290312	0.14	0	0	6.83	15.33	33.44	32.16	102.66	84.66	30.58
290362	0	0	0	1.8	11.67	1.69	14.59	18.56	1336.28	151.61
290890	0	0.07	0	0.01	0.55	1.80	133.66	4072.28	56632.86	6710
292090	0	0.23	3.3	0.91	2.28	5.88	29.22	0	0	4.62
292119	0	0	0	0	3.39	6.21	0	19.62	23.27	5.83
300490	0	9.73	0	0	0	0	1.23	2.87	0	1.54
392220	42	33.10	73.63	46.58	22.52	26.22	34.83	57.94	31.10	40.9
392620	0.29	1.69	0.22	0.19	0.28	1.31	2.45	2.41	0.67	1.06

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392690	0	0	8.36	0	7.90	0	0	0	0	1.81
401219	0	103.5	34.75	64.48	10.71	3.94	11.90	1.80	1.27	22.82
401290	1.48	3.43	1.17	1.01	0.09	0.14	0.05	1.07	0.28	1.25
410530	0	0.90	0.47	0.72	0.88	1.44	7.36	10.37	1.18	2.59
411390	0	1.63	4.52	0.68	0.03	0.60	0.37	0.01	5.2	1.45
430180	67.27	7.35	6.50	3.16	1.86	0.18	0.26	5.77	1.50	10.43
430219	0.23	0.86	0.2	4.40	3.15	0.59	1.00	2.68	3.78	1.88
440200	0	0	3.33	1.62	0.40	0.58	0.44	5.67	4.99	1.89
440341	0.53	2.56	1.07	0.04	0.10	0.03	0.16	1.06	7.21	1.42
440724	0.02	0.01	0	0.02	0.01	0	0	49.39	698.45	124
441021	0	0.01	0.01	0.01	0	0	35.91	0	2328.24	1574
441029	0	0	0.01	0.01	0.01	0.01	0.35	2010	143.82.95	1821
441111	0.09	0.05	0.37	7.00	4.14	3.66	52.83	260.81	193.74	58.08
441119	0	0	0.59	0.80	0.34	0.17	27.56	172.17	252.71	50.48
480820	0.25	0	0	0	0	0.11	0	28.12	6.09	3.84
481830	0.02	0	0.01	0.01	0.10	0.31	10.76	7.44	15.16	3.8
481850	0	0.6	2.6	12.56	21.61	35.94	1.59	6.04	0.03	9
482312	0	0	0	0	0	0	0	300.83	0	33.42
520513	0.04	0.41	1.86	5.89	1.69	9.17	13.87	59.99	38.93	15.62
520612	0.6	0.36	0	9.86	0.44	1.89	2.27	0.15	.08	1.68
520621	454.8	642.75	37.42	40.36	75.9	281.14	611.55	16.22	26.05	239
521119	0.36	0.53	0.06	1.15	0.86	0.17	1.11	2.91	4.82	1.33
521129	1.86	2.01	3.08	3.62	3.17	4.59	29.74	61314.44	1712.26	7008
521212	98.42	1.54	0	0	0.10	1.66	0.71	0.15	49.10	16.85
530290	0	0.52	0	4	8.11	6.81	0	5.68	12.68	4.96
530410	0	0	0	0	0	0	0	29.46	33.23	6.97
540410	0	0.01	0	0	0	0	0	31.20	0	3.47
550190	28.31	9.56	10.89	7.24	9.13	7.13	5.11	53.80	7.32	15.62
550340	15.68	14.44	6.61	16.33	14.45	14.45	8.69	7.35	2.72	11.9
550390	16.27	26.15	26.85	30.27	29.64	40.71	27.72	16.37	21.79	26.97
550690	1.00	6.58	5.852	2.44	2	0.20	0.12	0.47	0.27	2.1
550912	0.74	2.25	3.66	1.38	0.79	4.99	6.87	4.38	1.09	2.91

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551130	2.42	1.34	0.97	5	38.37	70.13	74.82	97.84	99.78	43.14
551339	0.17	0.27	0.10	0.10	6.46	3.86	13.47	6.94	4.07	3.94
551439	0	0.85	0.16	0.08	0.04	0.37	66.56	1039.73	3274.62	487
580310	0	0	0	0	0	0	0	0	12.58	1.4
600590	0	5.71	3.68	5.05	4.41	1.04	1.79	5.09	1.61	3.2
611219	57.63	67.44	45.61	73.54	38.07	22.57	5.43	0	0	34.48
611220	0	0	0	0	0	0	0	14.87	76.38	10.14
611519	91.35	30.08	2.68	5.05	4.41	1.04	1.79	5.09	1.61	3.2.3
611720	0.66	0	0	0	0	0	0	308.8	1442.67	195
620111	1.09	9.49	0.87	4.3	5.82	7.9	13.80	7	5	6.14
630611	0	0	0	0	0	0	0	237.65	0	26
630621	0	0	0	0	0	0.03	0	121.53	11379.92	1278
630639	1.12	0.44	0.09	2.87	0.17	0.31	1.97	1048.47	369.85	117
630699	3.49	6.20	1.03	0.22	0.33	0.18	1.27	9.05	5.34	3.11
630800	0.77	0.69	0.67	0.57	1.02	6.09	5.2	2.13	9.87	3
640191	0	0.09	0	0.10	0.08	0.76	2.95	9.26	10.33	2.62
640199	0.7	0.85	0	0.57	0.91	1.32	0.26	3.03	3.56	1.10
650100	0.32	24.85	7.11	1.02	6.78	0	0.29	0.13	0	4.5
650699	0	12.32	1.85	0.04	0.14	0	0	0	0	1.6
681120	7.36	9.12	14.16	8.32	5.82	6.69	29.59	128.37	0.89	22.89
681130	0	2.73	3.78	3.26	0.99	5.20	35.97	0	0	5.77
681250	0	0	0.84	11.17	3.33	2.44	22.79	1645.29	7448.31	1015
690100	20.51	23.26	12.33	3.98	0.68	0.87	0.36	0	0	6.9
701321	0	0	0.01	0	0	0.02	0.18	49.86	177.81	25.32
701690	0.37	0.28	0.57	0.12	0.01	0.42	0.02	5.62	3.5	1.21
701911	14.36	13.63	15.12	13.80	17.12	20.33	23.33	45.3	30.6	21.51
710410	10.51	7.28	0.18	0.5	0.09	0.85	0.17	0.32	0.46	2.26
710812	0	0	0	0	9.99	0	0	0	0	1
711319	0	0	0	0	7.85	7.6	0	0	0	1.72
720410	7.44	14.58	12.78	0.47	0.45	0	7.58	0	0	4.8
731531	0.13	0	1.25	66.5	86.44	24.70	0	0	0	17.15
740120	0	0.72	0.37	88.12	73.93	33.55	43.76	489.29	13316.83	1561

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760320	5.56	6.85	9.01	5.63	0.62	1.46	1.91	1.01	0.77	3.64
780411	13.11	0	0	0	0	0	0.14	0	0	1.47
800600	0	0.22	8.84	0.88	2.95	1.08	5.10	59.91	2087.85	241
820510	30.83	17.53	3.97	0	0	0	0	0	0	5.81
820560	0.12	0.42	9.25	16.07	1.46	0.99	3.63	0	0.3	4.25
820580	8.84	0.42	8.95	1.38	9	0.84	36.70	5.76	49.70	13.51
821191	3.56	0.28	0.16	1.60	2.58	12.25	22.59	17.22	6.68	7.4
821194	29.97	4.02	15.89	9.61	0.73	26.34	3.65	5.17	2.33	10.85
821220	0.45	2.02	0.62	6.77	2.84	6.66	15.98	7.54	4.59	5.27
830300	0.01	0.14	1.03	0.61	0.02	1.00	7.00	0.05	0.15	1.1
830590	0.40	0.34	16.57	17.47	18.82	58.92	6.64	1.14	7.00	14.14
830630	15.26	16.01	23.28	11.27	12.24	12.39	33.49	4.98	14.51	15.94
830890	0.10	0.08	0.30	4.32	1.44	2.79	4.29	2.29	17.17	3.64
830910	0.13	0.39	4.14	9.51	9.83	25.74	16.93	0.01	15.05	9.08
831000	0.28	0.48	1.4	19.71	23.01	57.34	209.51	29.15	24.90	40.6
840110	0	0	0	0	18.18	18.79	9.88	11.94	56.22	12.78
840590	113.05	184.23	82.32	253.10	346.07	396.25	376	0	0	195
840610	10.32	8.38	12.64	166.34	79.44	63.92	377.89	942.07	947.09	290
840681	9.60	22.33	15.34	7.85	0.58	4.13	9.22	0	0	7.56
840690	0.18	0.45	0.23	0.56	4.15	9.30	56.78	15.29	2.01	9.9
840710	2.84	6.79	2.38	21.71	124.21	2.08	2.9	0.03	0.07	18
840721	1.26	11	23.07	27.60	7.07	19.57	51.22	5.1	0.59	16.28
841012	0.50	0	0	0	0	0.08	0	19.90	4.32	2.80
841829	12.6	5.39	2.25	31.77	55.68	55.83	18.65	21.94	4.83	23.2
841840	19.93	19.73	11.97	7.99	34.96	12.69	37.24	70.7	93.14	34
841891	2.5	2.17	1.37	61.72	12.74	1.90	4.75	2.30	18.07	12
841960	0.09	0.83	0.25	0.96	3.59	12.92	2.07	17.48	7.84	4.8
842091	0.79	0.25	0.29	1.8	0.50	0.40	2.12	15.66	12.52	3.8
842111	17.5	1.48	1.04	8.24	15.89	15.41	9.45	5.02	0.82	8.32
842119	0.01	0.07	0.16	1.2	1.29	0.72	9.07	8.47	5.86	3.1
842122	0.2	4.99	1.40	87.22	82.15	63.82	5.93	46.8	28.10	36
842129	0	0.09	0.48	2.13	10.57	3.16	12.63	31.93	19.83	8.98

**BOTSWANA A MONO-DIAMOND ECONOMY OR NOT?**

842290	0	0.01	2.28	2.09	17.56	6.32	11.56	7.52	1.60	5.45
842320	0.38	0.76	2.98	5.63	0	1.04	0.42	2.21	3.62	1.89
842520	0.86	4.76	21.220	0	0.09	7.72	120.83	19.22	0	19
843039	9.45	0.74	0.05	2.39	8.36	5.64	4.19	20.56	2.46	5.98
843062	0	0	0	0	142.90	888.70	0	0	0	115
844210	0	0.01	0	0.02	0.35	0.02	16.53	1822.6	1700.45	393
844220	4.26	6.1	4.33	0.10	0.40	1.45	245.11	0	0	29.01
844312	0	0.07	1.47	0	2.19	1.76	3.93	7.6	2.17	2
844329	0.48	0.16	0.17	0	0	0.04	0.5	756.17	26.12	87.07
844330	0.61	1.53	3.06	1.11	2.03	1.14	48.22	15.89	598.66	75
844360	0	0.37	0	0	0.01	0.18	6.12	0.32	1.64	0.96
844390	0	0	0	0	0	0	0.04	20.51	4.77	2.81
844629	0.44	2.10	1.23	0.25	0.93	0.88	4.33	20.31	7.69	4.24
844832	0.36	0.90	1.29	0.24	0.40	1.03	0.76	7.77	3.26	1.8
845110	2.95	5.38	1.31	6.45	3.71	5.29	3.79	7.69	5.08	4.6
845230	8.78	7.66	6.94	8.61	15.80	5.79	1.86	6.23	18.01	8.9
845390	5.22	10.32	5.15	4.73	1.94	2.36	7.67	3.15	3	4.8
845410	150.44	179.78	38.67	22.15	66.7	49.27	22.42	66.97	70.5	74
845699	0.56	0.32	0	0	0	0.06	0	260	0	29
845899	0.09	0.36	0	0.09	3.81	11.59	7.24	5.39	0.22	3.2
846040	0.01	0.02	0	0.38	0.01	0	0.10	4.54	4.38	1
847150	0	0	0	9.72	9.92	0	7.12	0	0	3
847210	0.36	0.30	1.10	1.06	0.90	1.14	1.54	3.71	3.4	1.5
847220	0	16.80	0	0	0	0	0	0	0.02	1.9
847989	0	0	0	7.60	6.89	6.95	0	0	0	2.4
848340	1016.5	924.52	0	0.22	2.2	0	0	0	11.33	217
848350	0.13	0	16.88	13.99	11.87	6.15	29.82	0	0	8.76
848360	72.61	53.39	10.24	5.92	13.75	64.23	29.82	0	0	28
848390	0	0.3	1784.18	1691.26	1637.4	1566.63	1303.6	1174.37	1103.97	1140
848410	0	0.31	0.32	11.57	1.26	0	27.13	463.25	685.10	132
850132	0.74	0.10	0	8.19	85.10	122.91	42.62	344.35	138.81	83
850133	7.34	26.79	0	0	0	0	0	0	196.18	25.6

**BOTSWANA A MONO-DIAMOND ECONOMY OR NOT?**

850440	0	0	0	0	0	9.98	8.25	0	0	2
850630	2.18	22.10	67.19	173.15	231.73	504.91	674.04	471.48	819.08	330
850650	0.12	0.19	0.27	0.89	5.88	7.25	7.79	0.63	1.15	2.69
850690	1.59	1.4	1.62	0.89	1.43	0.35	0.39	0.46	9.07	1.9
850810	0	0.09	0.18	1.76	3.99	0	5.12	440.59	46	50.7
850910	0	0	0	0	0	0	0	140	13.31	17
850920	0	0	0	0	0.01	0.9	1.88	162036	7396.95	1002
851929	0.26	0.03	0	0.68	1.57	0.34	17.04	1069.43	19862.2	2328
852032	0	0	0	0	0	0.01	0.42	74.07	5.01	8.83
852033	0.41	0.11	0.95	0.3	0.13	0.15	2.39	13.21	24.13	4.61
852039	0.23	0	0	0	0	0	0	5941.32	0	660
852090	0	0	0	0	0	0	0	4.09	11.99	1.8
852311	0.61	0.08	0.02	0.02	0.02	0.14	1.28	39.58	3.30	5.2
852313	0	0	0	0	0	0	0.07	181.26	0	20
852320	0.03	0	0	0	0.02	0	0.01	570.17	28.17	66
852390	0	0	0	0.5	0.19	0.05	0.43	100.61	0	11
852410	1.78	0	0	0.92	0.99	0.71	99.37	0	0	12
852431	0.24	0.04	0.01	0.5	0.19	0.05	0.13	27.24	3.71	4
852451	0.31	1.05	0	0	0.13	0.16	0.06	0.13	4277.73	476
852452	0.36	0.21	0.32	0.34	0.78	1.33	3.03	20200.49	22895.31	4789
85245.3	0.03	0.03	0	0.16	0	0.34	1.23	417.94	268	76
852731	0	0.03	0	0.08	0.01	0.05	0.62	108.68	66.76	20
854250	0	0	0	0	0	0	64.21	0	0	7
854340	0.07	0.31	0.08	0.14	0.11	0.06	2.73	251.04	0	28
854441	0.22	0.46	0.33	0.24	0.22	0.24	0.73	4.27	4.52	1.25
854459	0	0	0.01	0.01	0	0	0.59	24.39	88.36	13
854810	0	0	1.02	0.03	0.32	0.25	0.23	5.01	4.09	1
870840	0	0	0	0	9.65	0	0	0	0	1
870911	16.87	18.6	34.31	13.05	15.69	31.28	13.37	7.61	9.07	18
870919	793.34	930.66	2910.11	2760.59	2418.3 2	3756.02	606.81	2.90	0	1575
871310	0.46	3.53	4.59	5.44	6.51	13.84	13.34	17.29	15.05	8.89

**BOTSWANA A MONO-DIAMOND ECONOMY OR NOT?**

871411	0.23	0.40	0.06	0.06	0.08	0.09	0.06	6.26	15.06	2.5
880190	0.09	0	0	0.17	0	0	21.88	0	15.41	4
880521	0	0.31	0.37	0.24	0.1	1.22	4.85	1.81	6.77	2
880529	0	0.4	0.18	28.87	27.22	14.23	65.42	31.37	0.88	19
900590	0.43	0.75	1.72	2.65	4.07	9.61	9.49	8.53	8.62	5
900912	0	0	0	0	0	0	0	15.50	0	1.7
900921	0	0	0	0	0.03	0	0	15	0	1.7
900922	0	0	0	0.24	0	10.56	0	0	0	1.2
900930	0	0.26	0.03	0	0.40	0	0	104.85	34783.3	3877
900991	0	0	0.04	0	0	0	0.38	0	70.04	8
900992	0	0.5	0.14	0.07	0.16	0.15	142.56	0	2925.34	341
900930	0	0.26	0.027	0	0.40	0	0	0	140	16
901530	0	0	0	0	0.33	1.53	4.84	7.89	13.44	3
902119	0	0	0	0	0	0	0	441.35	0	49
902790	7.59	2.80	8.06	4.04	3.52	3.7	1.92	2.24	2.87	4
910199	1.15	0.37	0.02	0.62	0.24	0.50	0.64	8.88	10.38	2.6
910390	1.69	26.03	1.60	8.33	19.39	7.12	5.03	5.47	36.56	12
910899	0.10	2929.84	2349.63	0	72542	15997	0	0	1597.06	10602
920993	20.17	87.81	0.59	2.0	16.75	6.46	67.14	0	0	22
930610	1.48	3.5	6.72	1.87	1.87	0.8	65.13	142591	1017.79	15965
950330	0	0	0	0	0.02	0	0.36	19.24	0.72	2.3
950349	0	0	0	0	0	0	0	4.88	6.11	1.2
950669	22.04	64.46	36.86	14.88	4.68	6.25	10.48	37.74	10	34
950810	0	4.87	2.28	5.71	6.62	1.1	0.74	23.37	2.40	5
960190	1.84	2.35	22.79	34.42	43.01	26.77	75.44	43.08	64.99	35
960310	1.3	7.95	2.85	0.63	18.27	0.34	44.06	0.47	17.54	10
960330	0.59	0.80	0.38	1.78	4.56	3.69	2.68	5.63	6.74	3
960630	6.08	5.53	2.49	6.36	6.76	2.24	23.75	8.61	9.39	8
960850	0.68	0.17	0	0.01	0.05	0.08	0	18.24	0	2
961320	0.07	0.02	0.06	1.49	0.77	0.26	5.78	5.22	1.96	2
961380	0.05	0.06	0.75	2.37	1.41	3.07	18.88	12.08	14.59	6

**BOTSWANA A MONO-DIAMOND ECONOMY OR NOT?**

## **1.6 DISCUSSION**

Table 3 shows that Botswana has Revealed Comparative Advantage (RCA) in 244 product lines out of the 5403 products computed for RCA over a 9 year period. This translates to 5% of all the products so far tested for possible Revealed Comparative Advantage. There was no evidence of any Revealed Comparative Advantage (RCA) in 5159 products. That means Botswana does not have Revealed Comparative Advantage in 95% of the products tested. The question the paper was addressing was whether Botswana is a mono-diamond economy or not. The results show that Botswana has other products other than diamonds in which it has comparative advantage hence it is not a mono-diamond economy. Botswana shows highly specialised in other products other than diamonds. The description of the products in which Botswana has a comparative advantage are presented in the Appendix. However, Botswana has also Revealed Comparative Advantage in low value products such as brooms, brushes, buttons, pens, pencils, balloons, sewing needles, balls etc. These are low value products no matter the world demand that can be there, they cannot earn much for Botswana to match earnings from diamonds. This is the main reason all the other products Botswana exports only add up to 30% to exports earnings.

## **1.7 CONCLUSION AND RECOMMENDATIONS**

Botswana is not a one product (diamonds) economy despite its heavy reliance on the product. The country is highly specialised in the production of other products apart from diamonds. Botswana has demonstrated efficiency in production of such products. These products can take over as Botswana's major exports in the event that diamonds are fully exhausted however some products constitute a group of low value products. It is recommended that Botswana should be promoting other products it has comparative advantage also. The current emphasis on diamonds can hurt other products in the long run as it is perceived as if Botswana only produces diamonds. There is a need to further diversify so that the economy does not rely on one particular primary commodity in this case diamonds constituting 70% of export earnings. Any negative changes in the diamond movement would reduce the economy into a forced recession. Botswana should use its earnings to diversify and enter into higher level manufacturing producing high value products than simply producing balloons, pencils, buttons, etc.

It can use its resources to import raw material and other inputs and engaged in real high level value added manufacturing away from steaming tomato sauce. The government should also diversify its revenue base so that no particular product has a monopoly to bring in 50% of its revenue. There is a need that the government prepares for the eventuality when it will have exhausted mining the diamonds and widen its revenue base well before the resource is exhausted. Further there are other countries which have recently discovered diamonds such as Zimbabwe, such countries will lead to Botswana's receipts decreasing including its market

share. As exploration continues, other countries may find themselves having diamonds. Botswana will increasingly find its market share decreasing. Once there are many players in the industry they may depress world commodity price of diamonds. If such happens the viability may be threatened. Botswana needs a long term plan beyond diamonds through diversification.

## APPENDIX

Harmonised 6-digits code	Product Description
020329	Swine cuts, frozen nes
020610	Bovine edible offal, fresh or chilled
050290	Hair and waste of badger and of other brush making hair
071010	Potatoes, frozen
081340	Fruits, dried nes
090190	Coffee husks and skins, coffee substitutes
091099	Spices nes
100610	Rice in the husk (paddy or rough)
110419	Cereals, rolled or flacked grains nes
110430	Germ of cereals, white, rolled, flaked or ground
120730	Castro oil seeds, whether or not broken
120890	Flours and meals of oil seeds or oleaginous fruits, except mustard, nes
151229	Cotton-seeds and its fractious refined but not chemically modified
152190	Bees wax, other insect waxes and spermaceti whether or not refined or coloured
170410	Chewing gum containing sugar, except medicinal
200540	Peas prepared to preserved other than by

	vinegar of acetic acid, not frozen
200551	Beans shelled prepared/preserved, o/t by vinegar /acetic acid not frozen
200931	Single citrus fruit juice unfermented, Brix value <= 20 at 20°C, whet
200950	Tomato juice unfermented and not spirited, whether or not sugared or sweet
210320	Tomatoe ketchup and other tomatoe sauce
230220	Rice bran, sharpes and other residues pelleted or not
240290	Cigars, cheroots, cigarillos and cigarettes, containing tobacco substitutes
250840	Other clays (excluding expanded clays of 68.06)
251319	Pumice stone, nes
251611	Granite, crude or rough trimmed
252230	Hydraulic lime
261790	Ores and concentrates
270500	Coal gas, water gas, etc, other than petroleum gases and gaseous hydrocarbons
270900	Petroleum oils and oils obtained from bituminous minerals, crude.
271011	Aviation spirit
271019	Light petroleum distillates, nes
271121	Natural gas in gaseous state
283650	Calcium carbonate
290312	Dichbromethane
290890	Derivis of phenols or phenol-alcohols, nes
300490	Medicaments, nes, in dosage
392220	Lavatory seats and covers of plastics



392620	Apparel and clothing accessories (including gloves) of plastics
392690	Articles of plastics or of other materials of nos 39.01 to 39.14
401213	Retreaded pneumatic tyres
401290	Solid or cushioned tires, interchangeable tire treads and tire flaps of rubber
441390	Leather further prepared after tanning or crusting including parchment-dr
430180	Raw furskins nes, whole
430219	Tanned and dressed firkins, nes, whole, not assembled
440200	Wood charcoal (including shell or metal charcoal)
440724	Lumber, virola, mahogag, imbuia, Balsa, sawn > 6mm
441029	Oriented strand board and waferboard, of wood, whether or not agglomerated.
441119	Fibreboard >0.8 glem <sup>2</sup> nes
480820	Doors and their frames and thresholds of wood
481850	Articles of apparel and clothing accessories, of paper, nes
482312	Self-adhesive paper in strips or rolls with a width of <= 36 cm
520513	Cotton YARN, >/= 85%, single, uncombed
521129	Wooven fabrics of cotton, < 85% mixed with m-m fibre, more than 200g/m <sup>2</sup> . dyd
550690	Synthetic staple fibres, not carded or combed, nes
551339	Woven fabric of other synthetic staple fibre < 85% mixed with cotton </= 120g m <sup>2</sup> , yarn dyd

551439	Woven fabric of other synthetic staple fibre, < 85% with cotton > 170 g/m <sup>2</sup> yarn dyed
580310	Gauze of cotton other than narrow fabrics
611220	Ski suits, of textile material knitted
611519	Panty hose and tights, of other textile materials, knitted
611720	Ties, bow ties and cravats of textile materials, knitted
620111	Mens/boys overcoats and similar articles of cotton, or knitted
630611	Tarpaulins, awnings and sunblinds of synthetic fibres
630621	Tents, of cotton
630639	Sails, of other textile materials
630800	Sets consisting of woovens fabric and yarn for making up into rugs
640191	Waterproof foot wear, outer soles/upper of rubber/plastic covering knees, nes
640199	Waterproof foot wear, outer soles/upper of rubber/plastic, nes
650100	Hat-forms, hat bodies and hoods of felt; plateaux and machons, of felt
650699	Headgear nes, of other materials
681120	Sheets nes, panels/tile etc of asbestos-cement; cellulose, fibre-cement etc.
681130	Tubes, pipes and tube/pipe fittings of asbestos-cellulose fibre-cement
681250	Asbestos clothing, clothing accessories, footwear and headgear
690100	Bricks, blocks etc and ceramic goods of siliceous fossil meals of similar earths
701321	Drinking glasses other than glassceramics of

	lead crystal
701329	Drinking glasses other than glassceramics
701690	Paving blocks etc for building/construction etc, leaded lights, foamglass etc.
701911	Chopped strand of glass fibres, length 50mm
710410	Piezo-electric quartz whether or not worked or graded
710812	Gold in unwrought forms monetary (including gold plated with platinum)
711319	Articles of jewellery and part thereof of/or precious metal w/n platd/clad with precious metal
720410	Waste and scrap, cast iron
740120	Cement copper (precipitated copper)
760320	Powders, aluminium, of lamellar structure, including flakes
780411	Lead sheets, strip and foil of a thickness (excluding any backing) <0.2 mm
820510	Drilling, threading or tapping tools
820560	Blow torches
820580	Anvils, portable forges and hand or pedal operated grinding wheels
821191	Table knives having fixed blades
821220	Safety razor blades, including razor blade blanks in strips
830300	Safes, safe deposit lockers, cash, deep/strong boxes and the like of base metal
830590	Letter corners, letter or paper clips similar office art of base metal
830630	Photograph, picture, or similar frames and mirror of base metal

830890	Beads, spangles and other made up art nes, for clothing/footwear, awnings etc.
830910	Corks, crown of base metal
831000	Letters, numbers, sign plates and similar art of base metal excluding those of heading no90.05
840590	Parts of prod gas/wat gas generals generators, acetylene gas gen and similar water gas gen
840610	Turbines for marine propulsions
840690	Parts of steam and vapour turbines
840710	Aircraft engines, spark-ignition reciprocating or rotary type
840721	Outboard motors, spark-ignition reciprocating or rotary type
841012	Hydro turbines and water wheels of a power excluding 1000 kw but not exceeding 10000 kw
841829	Refrigerators household type, nes
841840	Freezers of the upright type, not exceeding 900 litres capacity
841891	Furniture designed to receive refrigerating or freezing equipment
841960	Machinery for liquefying air or gas
842091	Cylinders for calendar or rolling machine nes, excluding for metal or glass
842119	Centrifuges nes
842122	Filtering or purifying machinery and apparatus for beverages, excluding water
842129	Filtering or purifying machinery and apparatus for liquids nes
8421290	Parts of dish washing, cleaning or drying container, packaging or wrapping machine
842320	Scales for continous weighing of goods on

	conveyors
842520	Pit-head winding gear winches specially designed for use underground
843039	Coal or rock cutters , not self-propelled
843062	Scrapers, non self-propelled
844210	Phototype-setting and composing machines
844220	Machine appliance and equipment for type-set or comp by other process without founding device
844329	Letter press printing machinery, nes excluding flexographic printing
844330	Flexographic printing machinery
844360	Machines for uses ancillary to printing
844390	Parts of printing machinery and machines for uses ancillary to printing
844629	Machines for weaving fabrics of width exceeding 30cm shuttle type nes
845230	Sewing machine needles
845390	Parts of machine for preparing etc hides skin leather/mak/rep foot without sewing machine
845410	Converters used in metallurgy or metal foundries
845899	Lathes nes for removing metal
846040	Honing or lapping machines for removing metal
847150	Digital processing units not sold as complete system
847210	Office duplicating machines
847220	Addressing machines and address plate embossing machines
847989	Machines and mechanical appliances nes

	having individual functions
848340	Gears and gearing, ball screws, gear boxes, speed changers/torque converters
848350	Fly wheels and pulleys including pulley blocks
848360	Clutches and shaft coupling ( including universal joints)
848390	Parts of power transmission equipment/other goods used to transmit power
848410	Gaskets of metal sheeting combined with other material
850132	DC motors, DC generators, of an output exceeding 750w but not exceeding 75 kw
850133	DC motors DC generators of an output exceeding 75kw but not > 375kw
850440	Static convertors, nes
850630	Mercuric oxide primary cells and batteries
850650	Lithium primary cells and primary batteries
850690	Parts of primary cells and primary batteries
850810	Drills, hand-held with self-contained electric motor
850910	Domestic floor cleaners
850920	Domestic floor polishers
851929	Record-players, nes
852032	Magnetic digital audio tape recorders
852033	Magnetic tape cassette type
852039	Magnetic tape recorders incorporating sound reproducing apparatus, nes
852090	Magnetic tape recorders and other sound recording apparatus, nes
852311	Unrecorded magnetic tapes, of a width

	exceeding 4mm but not exceeding 6.5 mm
852313	Unrecorded magnetic tapes, of width exceeding 6.5mm
852320	Unrecorded magnetic disc
852390	Prepared unrecorded media for sound recording or other phenomena nes
852410	Recorded gramophone records
852431	Recorded laser discs (other than sound/image discs)
852451	Recorded magnetic tapes, width < 4mm
852452	Recorded magnetic tapes, width 4-6.5 mm
852453	Recorded magnetic tapes, width >6.5mm
852731	Radio broadcasting reception combined with sounds recording or reproducing apparatus, nes
854250	Electronic micro assemblies
854340	Electric fence energisers
854441	Electric conductors, for a voltage not exceeding 80V fitted with connectors
854459	Electric conductors for a voltage >80V but not exceeding 1, 000V, nes
854810	Waste and scrap of primary cell
870840	Transmission for motor vehicles
870911	Work trucks, electrically powered, for use in factories and warehouses.
870919	Work trucks not electrically powered
871310	Wheelchairs, mechanically propelled
880190	Balloons, dirigibles and non- powered
900590	Parts and accessories (including mountings), of item of heading 90.05
900921	Photo-copying apparatus, incorporating an

	optical system, nes
900922	Contact type photo-copying apparatus nes
900930	Thermo-copying apparatus
901530	Surveying levels
902119	Orthopaedic or fracture appliances, nes
902790	Microtomes, parts and access of inst and app for physical or chemical analysis, nes
910199	Pocket –watches and other watches with case of precious metal, nes
910390	Clocks with watch movements, nes excluding clock of heading no 91.04
920993	Part of accessories for the musical instruments of heading no. 92.03
930610	Cartridges for rivetal similar tools/for captive bolt human killers including parts
950330	Construction sets and constructional toys, nes
950349	Toys nes representing animals or non human creatures
950669	Balls, nes
960190	Animal carving material (other than ivory) and articles of these materials
960310	Brooms/brushes of twigs/ other veg.mat bound together, with/without handles
960330	Artist, writing and similar brushes for the application of cosmetics
960630	Button moulds and other parts of button, button blanks
960850	Sets of articles from 2/> fore gog subheadings (pens, markers, pencils)
961320	Pocket lighters, gas fuelled; refillable
961380	Lighters, nes



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