African Crop Science Journal, Vol. 22, Issue Supplement s4, pp. 987 - 995 ISSN 1021-9730/2014 $4.00

COMPARATIVE ADVANTAGE OF THE EASTERN AND CENTRAL AFRICA IN THE COFFEE EXPORT SECTOR: THE CASE OF BURUNDI

W.M. NDAYITWAYEKO, M.O. ODHIAMBO[1], M. KORIR[2], P.M. NYANGWESO[1] and W. CHEPNG'ENO[1]
Department of Rural Economics, FSEA, University of Burundi, B.P. 1550 Bujumbura, Burundi
[1]Department of Agricultural Economics and Resource Management, SBE, Moi University, P. O. Box 3900, Eldoret, Kenya
[2]Department of Economics, SBE, Moi University, P. O. Box 3900, Eldoret, Kenya
Corresponding author: ndayiwm@googlemail.com

ABSTRACT

Coffee is a major contributor to the economies of East African Community (EAC) members. However, recently, export of the crop has declined due to internal and external forces of supply and demand. This paper sheds light on the EAC's comparative advantage in this cash crop in the international coffee market, with a special focus on Burundi, whose green coffee export is a backbone to its total exports (75%). The study is based on the proposition of the trade theory that partnership in international trade is determined by the prevailing comparative advantage. An improved normalised comparative advantage index, Normalised Revealed Comparative Advantage (NRCA), was used on data of coffee exports of Standard International Trade Classification (SITC) 3 4-grade, for the period 2000-2012. In order to conduct a dynamic comparative analysis, we used a time trend regression model to detect whether a country has gained or lost its comparative advantage during the period under study. Instability analysis was also used to depict the extent of NRCA volatility when the time trend was not statistical significant. Empirical results reveal that EAC countries had comparative advantage, with Uganda and Kenya leading the group during the period under study. However, they exhibited a simultaneous reduction in competitiveness in the global market, though at different levels. For the ECA countries to remain competitive in the global market, they must strengthen their position in the market by tackling coffee price volatility at ^producer level and show willingness to revamp the coffee industry.

Key Words: East African Community, Kenya, Uganda

RÉSUMÉ

Le café est un grand support de l'économie des pays membre de la Communauté d'Afrique de l'Est (CAE). Cependant, dans les périodes récentes, les exportations de cette culture industrielle a chuté a cause des facteurs tant internes qu'externes de l'offre et de la demande. Cet article a pour but de dégager le niveau de l'avantage comparatif des exportations de cette culture industrielle dans les pays importateurs, avec un aperçu spécial sur le cas du Burundi dont les exportations dépendent principalement du café (75 percent). Cette étude se base sur l'hypothèse de la théorie de l'économie internationale selon laquelle les tendances du commerce international sont prédites par l'avantage comparatif. L'indicateur de l'analyse de l'avantage comparatif, Avantage Comparatif Révélé Normalisé (NRCA) a servi à analyser NRCA sur les données des exportations du café vert, SITC grade 3- 4, durant la période de 2000-2012. Pour mener une analyse comparative dynamique, nous avons utilisé le modèle de régression de tendance temporelle. Cette analyse nous a permis de savoir si le pays en question a gagné ou perdu son avantage comparatif durant la période considérée. L'analyse d'instabilité a été adoptée afin de trouver le dégrée de la volatilité de NRCA lorsque la régression de tendance temporelle donnait des résultats dont les différences étaient statistiquement non significatives. Les résultats empiriques ont montre que tous les pays membres de la CAE présentent un certain avantage comparatif dans ce secteur café avec le Kenya et l'Uganda à la tête du groupe des pays pendant la période considérée. Néanmoins, tous ont perdu leur avantage comparatif dans le marché mondial du café durant la période en étude mais à des niveaux relativement différents. Cet article a recommande que si les pays de la CAE et spécifiquement le Burundi, veulent être compétitif sur le marché mondial du café, ils doivent résoudre l'épineux problème de la volatilite du prix au producteur, mais aussi avoir la ferme volonté d'accélérer les politiques de restructuration du secteur café.

Mot Clés: East African Community, Kenya, Uganda

INTRODUCTION

The export sector of most eastern and central African countries is dominated by coffee, which accounts for over 70 percent of foreign exchange earnings from total exports (USAID, 2010). However, coffee output and quality in the sub-region have declined due to internal and external factors (World Bank, 2011). More recently, it was noted that coffee production decreased by 45 percent in 2011 compared to that in 2010 in Burundi alone (USAID, 2012). This was due to the decline in coffee prices, that triggered poor coffee husbandry practices and crop over-maturity.

In 2006, market liberalisation in the sector eroded the monopoly of public agencies by allowing private enterprises to compete with it and also brought changes in the regulatory framework of coffee trade. In the global market, Burundi failed to adjust itself to the radical changes such as the collapse of International Coffee Agreement (ICA) quota system in 1989, repositioning of the leading producer (Brazil), technological innovation in coffee roasting and blending, and the entry of new players in the coffee market (Vietnam and China).

Despite these backdrops, Burundi has conducive agro-ecological condition to produce high-quality coffee and the coffee sub-sector is in the process of being revived through a comprehensive reform so that it may improve its performance in the world market. The reforms introduced in 1980 in Burundi that aimed at boosting the coffee sector did not yield the expected results. Another round of reforms introduced in 1990s shaped the organisation and management in the sector. The key reforms were the privation of the sector and the downsizing of the *Office des Cultures Industrielles du Burundi* (OCIBU), a public agency playing production and marketing roles, to a marketing board. External players were called in to boost the quality of coffee along the production value chain, and at the same time promote the price incentive to producers.

After joining the East African Community in 2007, the country needs to learn from its neighbours and at the same time seize the unique occasion to exploit the EAC Custom Union and EAC Common Market protocols put in place. The Customs Union is premised on easy access to markets, reduction of trade barriers and access to the major ports of the region, that is, Mombasa and Dar Es Salam. Comparatively, Rwanda with a highly concentrated coffee export like Burundi, has reaped a lot from coffee privatisation and coffee production efficiency introduced since 2001. Tanzania and Uganda are on the same agenda with regard to the speed and magnitude of coffee production and marketing reforms implementation in 1990s. Despite coffee sub-sector liberalisation, the Coffee Board of Kenya (CBK) remains the main player in regulation and marketing of coffee in the EAC (Nyangito, 2001).

This paper presents the level of comparative advantage of Burundi coffee in relation to the EAC countries considered as benchmarks. The paper also attempts to show the coffee comparative advantage score trend of the country; with focus on the status of Burundi coffee export.

Theory of comparative advantage. While several articles on the comparative advantage approach in recent years seem to rely on the Balassa (1965)'s framework, much less effort has been devoted to use the advanced tool of comparative advantage to correct the shortcomings of Balassa Revealed Comparative Advantage (BRCA) in Sub-Sahara Africa studies (Ndimanya and Ndayitwayeko, 2009; Makochekanwa, 2007; Shinyekwa and Othieno, 2011; World Bank, 2011, Mzumara *et al*., 2013; Chingarande *et al.* 2013). According to Bebek (2011), the major weakness of BRCA index is that it violates four statistical properties of a true comparative advantage index, such as symmetry of the index and its demarcation, fixed effective bounds, mean stationarity and uniqueness of the index value. The proponents of comparative advantage index examined how the distribution of their indices differs from the original index (BRCA), and at the same time achieved the four mentioned statistical properties. NRCA index by Run *et al.* (2009) was born out of the desire of finding a reliable and effective index to explain both dynamic and cross-country reveal comparative advantage.

The dynamic trend of comparative advantage used to explain the Sub-Saharan Africa's coffee competitiveness has not received adequate attention and is addressed in this paper. Besides, this paper uses the novel tool known as Normalised Revealed Comparative Advantage (NRCA) by Run *et al.* (2009) in order to circumvent the limitations of BRCA and better understand the dynamics of the level of competitiveness in the coffee sector of EAC. To the best of our knowledge, no time series estimate on RCA exist for Burundi and EAC member states in general.

Profiles of the coffee export sub-sectors in the EAC member countries. Rwanda Government policy since 1994 moved towards the liberalisation and privatisation of the coffee industry. Various constraints, such as export tax, were removed so that Rwandan exporters were able to pay fully competitive prices to producers. The establishment of Rwanda Competition Board, the increase of coffee-washing stations and the improvement of coffee quality or specialty coffee, re-positioned the Rwanda coffee sector in the world market. The growth of coffee production and exports was attributed to this government policy reform that had a direct bearing on the establishment by competitive private firms and individuals of modernised coffee washing stations and huge investment in primary processing in the coffee sector.

In Uganda, according to Bussolo *et al.* (2006), the Uganda Coffee Authority Board embraced strategies aimed at improving the level of competitiveness of their coffee (second largest producer in Africa after Ethiopia), in the international market by disseminating new coffee varieties, promoting domestic coffee consumption through training in coffee roasting, brand development, market research and encouraging value addition and penetration in new and emerging coffee markets.

In Tanzania, the sale of coffee was regulated and controlled by the Tanzania Coffee Board (TCB) through two channels, namely the Moshi Coffee Auction and direct export only for quality coffee permitted by licenses issued by TCB (Mhando *et al.*, 2013). A strongly regulated coffee sector may put Tanzania at competitive disadvantage in the region as well as in the world. To the contrary, in Burundi, coffee production is in the hands of competitive private firms and individuals and this has somewhat reduced the occurrence of distorted coffee prices.

The Kenyan Government reduced the powers of Kenya Planters Cooperative Union in 1999 through a special legislative supplement of the Coffee Act Chapter 333, which was the main exporter of coffee in the country, by licensing nine new processing firms and millers. Like in Tanzania, coffee sale in Kenya was done in two ways, namely by sale directly and at the digital Nairobi Coffee Auction. However, growers continued to receive unattractive prices because of highly costly and poor service delivery done by cooperative or private enterprises (Nyangito, 2001).

East African Community coffee exports for 1980-2011. The coffee export patterns from 1980 to 2011 exhibit four features (Fig. 1). Firstly, a rise in exports registered during 1986 and 1995 resulting from the severe frost and damage to the coffee crop of the leading exporter, Brazil, the coffee shortage of which pushed the Arabica coffee price up.

This led to high volumes of coffee exports from Brasil's coffee export competitors, EAC countries being among them (Otim and Ngategize, 1993; Nestlé, 2004). Secondly, the EAC exports progressively declined up to the lowest point around 1992-1994 (Fig. 1). Again, a general fall in export was recorded in 2002; followed by a modest growth up to date. Figure 1 depicts two coffee export leaders in EAC, which are, Kenya and Uganda but with a quasi dominance of Uganda since 1995. Burundi and Rwanda were

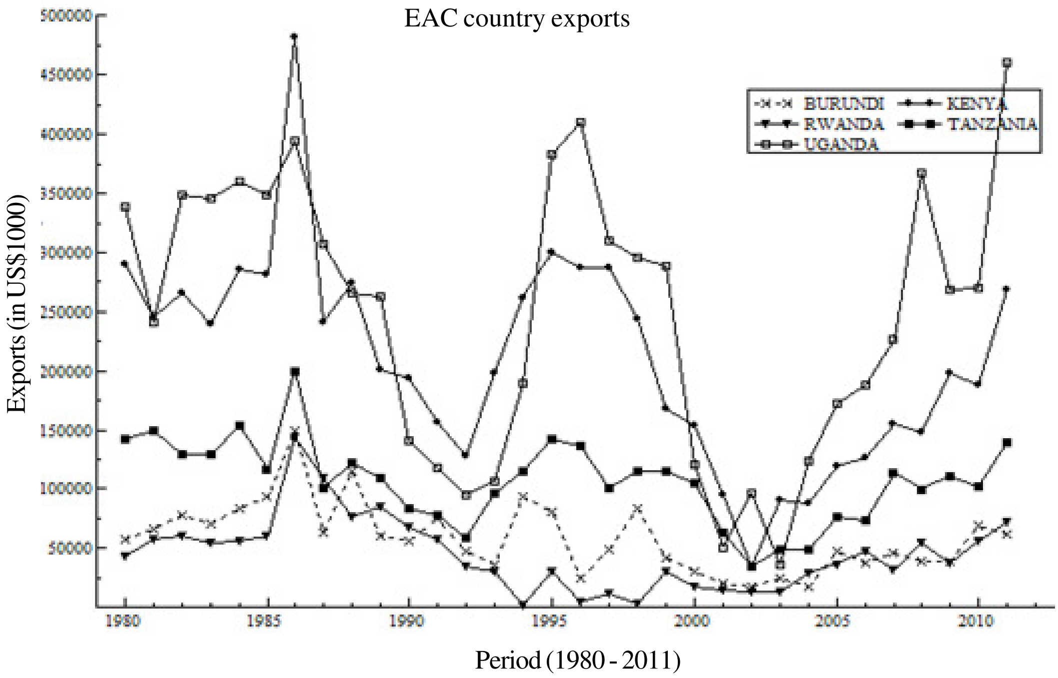

Figure 1. East African Community country coffee exports during 1980-2010.

the least coffee exporters in EAC because of limited factor endowment (land) and technology, though coffee was grown in a conducive environment and volcanic soils.

While Burundi's coffee export was greater than that of Rwanda since 1980, their export trends intertwined from 2003 onwards. The implementation of Rwanda's coffee reforms and success attracted Foreign Development Investment (FDI) which boosted its export.

Normalised revealed comparative advantage of EAC countries trend (1980-2011). On overall, the five EAC countries lost their comparative advantage in 1986, the year of great performance in the world coffee trade. The NRCA decline in trends which started 1996/1997 went even further below 0.25 because of the decline in the world coffee price which reached its trough in 2001 (Fig. 2).

Bussolo *et al.* (2006) assessed the impact of declining coffee price on coffee production by analysing the trend of world coffee price and its implications on the level of coffee growers' poverty in Uganda. The EAC countries have been facing stiff competition and losing market share to the new producers such as the Philippines and other Asian countries. Their contribution to the world market became dismal because coffee price plummeted in the global market. Nevertheless, Uganda kept pace with Kenya and both had a NRCA score above 1.0 during 1980-1987 prior to the 'lost decade' (1990-2000) due to the Structural Adjustment Programme. The drivers of their competitiveness outfit are explained by being able to contain supply chain factors, hindering production performance and also streamlining efforts to capture niche markets in developed and developing coffee consuming countries (Fairtrade, 2012; Mmri, 2012).

Burundi registered a progressive fall in its comparative advantage from a NRCA score of 0.41 in 1980-1987 to a score of 0.03 in 2004-2011, that is a 93 percent decline in comparative advantage (Table 2). However, there was an overall appreciation of the coffee competitiveness when EAC as a whole traded this commodity with the rest of the world.

The findings reported in Table 2 contradict those of Chingarande *et al.* (2013) that unroasted

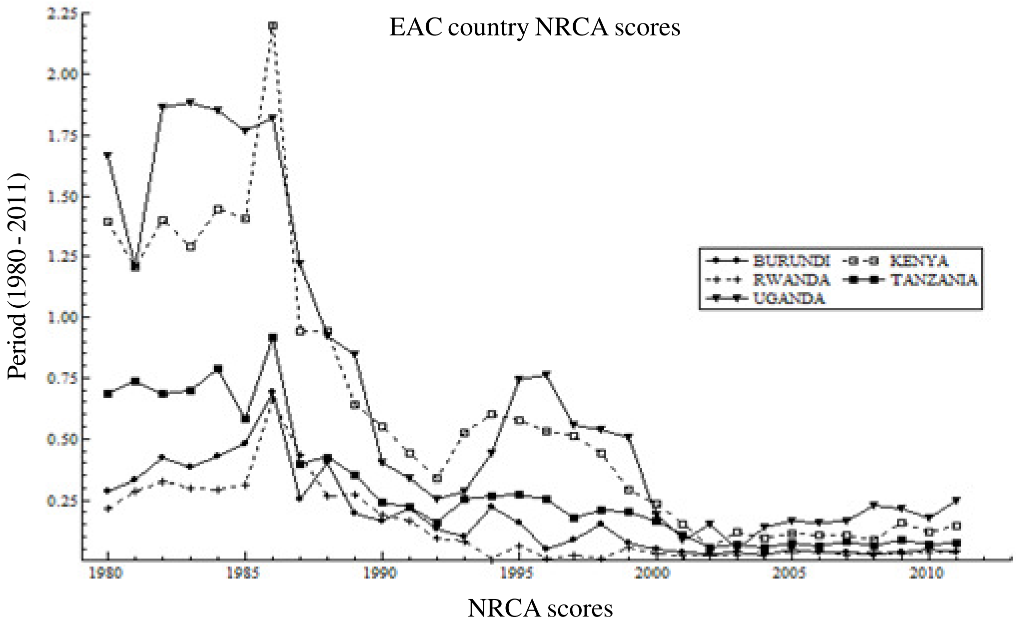

Figure 2. Normalised Revealed Comparative Advantage of EAC countries Trend (1980-2011).

TABLE 1. Burundi coffee census data (2000-2010)

Year	Yield[a] (t ha^{-1})	Production[a] (mt)	Export[a] (US$)	Farmer[b] price (US$ kg^{-1})	World[a] price (US$ kg^{-1})	Farmer earning (%)
2000	0.88	18500	30941	0.81	1.54	0.52
2001	0.88	15834	21109	0.68	1	0.68
2002	0.90	36000	18032	0.69	0.93	0.74
2003	0.91	20100	25169	0.59	1.09	0.54
2004	0.90	36000	18124	0.63	1.28	0.49
2005	0.87	7800	47056	1.07	1.75	0.61
2006	0.97	31000	38073	1.9	1.93	0.98
2007	1	29946	46895	1.76	2.21	0.8
2008	0.91	7305	39419	1.92	2.62	0.73
2009	0.97	25130	39476	1.90	2.28	0.83
2010	0.95	6821	69845	1.86	2.72	0.68

Source: [a]FAOSTAT, 10 September 2013, [b]International Coffee Organisation. (ICO), 10 September 2013

coffee emerged among the ten top product with a high BRCA. However, the BRCA as an analytical tool has shortcomings described above (static and not comparable over time). Compared to its counterparts, it ranks second last, but due to the success of Rwanda's coffee sector during this decade (2003-2013), Burundi NRCA trend followed that of Rwanda despite the privatisation reforms introduced previously in Burundi to kick-start the revival of the sector.

The results of the time trend model revealed that EAC countries exhibited a comparative disadvantage (Table 3). The variable time trend was negative (less than zero) and very statistically significant, implying that the EAC countries' coffee export competitiveness was

TABLE 2. Normalised revealed comparative advantage summary results (1980-2011)

EAC Country	1980-1987	1988-1995	1996-2003	2004-2011
Burundi	0.41	0.20	0.06	0.03
Kenya	1.41	0.58	0.29	0.12
Rwanda	0.35	0.14	0.02	0.03
Tanzania	0.69	0.27	0.15	0.07
Uganda	1.67	0.53	0.35	0.19
EAC	0.18	0.60	0.14	0.30

TABLE 3. East African Country coffee trend regression and instability index estimation (1980-2011)

Estimate	Burundi	Kenya	Rwanda	Tanzania	Uganda
Constant	0.42*	1.43*	0.35*	0.69*	1.61*
Coefficient	-0.01*	-0.05*	-0.01*	-0.02*	-0.06*
SE Coeff.	0.002	0.005	0.002	0.002	0.007
t-stat Coeff.	-7.81	-9.24	-6.21	-10.07	-8.37
F-stat	60.95*	85.45*	38.55*	101.33*	70.11*
R^2_{adj}	0.66	0.73	0.55	0.76	0.69
CV	0.97	0.91	1.14	0.87	0.92
Instability Index	0.57	0.48	0.77	0.43	0.51

* = significance at 1% level, SE = standard error, CV = Coefficient of variation

unstable, volatile and declining during the period under study. Kenya and Uganda's slopes were not as steep as those of their neighbours.

Rwanda possessed the highest instability index of 77%, followed by Burundi at 57%. This could be attributed to the recent structural and institutional reforms that shook the whole coffee production and trade system in the two countries, and spurred competitiveness in the last decade 2000-2010. However, the instability in competitiveness could also mean the degree of exposure to world shocks, specifically the price volatility due to either coffee overproduction or the existence of price asymmetry in the transmission of price changes.

Burundian coffee export sub-sector. Introduced in 1930s, the coffee industry in Burundi has undergone several re-organisations and major reforms. Burundi grows two types of coffee, *Coffea arabica* and *Coffea robusta*. *Coffea arabica* is concentrated in the northern and central parts of Burundi (Ngozi, Kayanza, Gitega and Kirundo); while the coffee robusta is largely in the northern-east region (Bubanza and Cibitoke). On the other hand, the *Coffea arabica* 'Bourbon variety' represents 96 percent and the varieties constituting coffee robusta in the country.

Coffee is grown predominantly as a smallholder cash crop; providing incomes for 600,000 households and occupying approximately 70,000 hectares, carrying about 25 millions of trees (PAGE, 2007; USAID, 2010). With the introduction of micro-credit scheme, ownership of coffee tree plantation is the means by which the smallholder farmers used as a collateral, asset presented to micro-credit institution such as Saving and Credit Cooperative (COOPEC) and others (USAID, 2010).

Despite efforts engaged by the State to revamp the coffee sector, the latter was not spared by the vagaries of shortage of coffee supply due to the domestic meager production, world coffee volatility and financial crisis. The shortage of coffee supply to the world market was due to endogenous factors such as demographic pressure and land scarcity. Indeed, coffee is grown in the most populated regions in Burundi, that is, Ngozi, Gitega and Kayanza. The coffee price volatility in the world market has impeded the acceleration of coffee reforms. Burundi coffee farmers are viewed as the most poorly remunerated in the EAC region and sometimes below the cost of production (Table 1).

In the 1990's, Arabica coffee producers of Uganda received 76% higher price than that received by their Burundian counterparts (USAID, 2010). The fact that a low price is given to coffee producers when it is known that there is a boom in the consuming countries is what economists refer to as the 'coffee paradox'. This was explained by price asymmetries in the coffee trade, oversupply and time lag in reconstruction of world market (Kang and Kennedy, 2009). However, in the case of Burundi, the reasons given for the low prices at producer level were associated with primarily the scrupulous coffee export agents (collusion of international traders), decade of socio-political unrest within the country and state control. Low incomes generated from coffee plantation has led to either uprooting of coffee trees or intercropping with food crops. Lack of effective agricultural extension service as well as illequipped and under funded research stations have been major supply-side constraints. According to USAID (2010), OCIBU with four technical officers, lacks enough human resources to equip coffee farmers with new technologies and deliver educational programmes on good husbandry practice. This tendency has led to poor coffee production and has forced policy makers to intervene in order to seek avenues for promoting coffee productivity. This was in contrast with the expansion of coffee hectarage in 1990s with the aim of increasing coffee production (USAID, 2007).

The policy prevailing prior to coffee liberalisation of 1980s, was that of 'stick and carrot; subsidising coffee production in terms of maintaining floor producer prices in order to stimulate production (World Bank, 2011) and at the same time, forbid farmers to uproot coffee trees. But given the trend of world coffee development and the implementation of Structural Adjustment Programmes (SAPs), Burundi dropped such a policy and embraced the privatisation of the sector. This was done in three phases, namely the privatisation of management which saw the creation of private operator, the Mixed Public-private Company with Curing (SODECO) and SOGESTAL managing the de-pulping and washing stations.

The second phase was the introduction of deregulation measures with the attempt to limit State intervention in the sector. The re-structuring of the sector was the last attempt aimed at revamping it creating room for investment of the private companies in the sector.

The coffee exports fell in the hands of the private companies and Burundi Coffee Company (BCC), a State-own company. In order to strengthen their negotiation power, all private companies were regrouped in a professional association called Association of Burundi Coffee Exporters (ABEC). Coffee was sold either at auction by these companies or directly to buyers, thereby bypassing the coffee board.

Albeit all these reforms, coffee growers were sidelined and continued to receive meager revenue from their coffee. Besides, the State still had its grip on the sub-sector and there was a strong need for establishing a non-partisan coffee agency to fully regulate the coffee industry. The agency should be preferably an independent body answerable to the minister of agriculture, and enforce the laws for delivering services such as coffee processing and marketing.

With the liberalisation of the Burundi coffee industry, coffee farmers engaged with international coffee buyers for only specialty coffee, but through the facilitation of the trade regulatory body named Coffee Chain Regulatory Authority of Burundi (ARFIC). The gateways of Burundi green coffee were the sea ports of Mombasa in Kenya and Dar-Es-Salam in Tanzania. The dominant destinations were European countries, with Germany topping the list, and North American countries such as USA and Canada.

As Rwanda and Tanzania successfully reformed their coffee sector by being aggressive in coffee specialty production and adopting highly advanced marketing strategies in the world market, Burundi still lagged behind because of wrangles in the privatisation process and the slow pace in the enforcement of decisions regarding the deregulation and privatisation of the coffee industry (USAID, 2010).

Trade policy has been designed in such a way that the export sub-sector, coffee sub-sector in particular, is promoted. The export tariff on coffee beans was abolished in Burundi by 2005 (USAID, 2007). The imports of unprocessed coffee, other than beans, attract an average tariff of 25 percent, compared with 100 per cent in 2003. The liberal coffee trade system was formed in order to allow a full participation of the coffee growers, who were organised in an association called the National Confederation of Coffee Growers (CNAC). The withdrawal of the State from coffee business enabled the growers to retain 72 per cent of the profits of 2010/2011 coffee season, ARFIC 1.68 per cent, INTERCAFE 3.5 per cent, SODECO 4.9 per cent, SOGESTAL 16.32 per cent, coffee promotion 0.4 per cent and state service only 1.2 per cent (World Bank, 2011). Besides, the existence of many players in this sub-sector ignited a stiff competition and the improvement of the coffee quality in Burundi.

In EAC, the coffee sub-sector followed the same pattern of liberalisation. In Rwanda, a national coffee strategy was drawn, with clear targets and with a sole aim of increasing the income of small scale coffee growers through scaling up their participation along the coffee value chain (Mutandwa *et al.*, 2009). The latter sold their coffee cherries to coffee-washing stations owned either by cooperative or private enterprises.

CONCLUSION

Burundi is the least competitive amongst all EAC members despite the liberalisation of the coffee sector. The declining of comparative advantage may explain the status of coffee sector of Burundi in which a large part of its production is exported to the world market. The low price paid to the producers and the asymmetries in the coffee value chain are sources of poor production and quality of Burundi's coffee. The failure to fully privatise the semi-washed, fully-washed stations and SOGESTALs has led to an unequal distribution of coffee revenues among the coffee stakeholders. Privatisation of these processing sectors is considered as the crucial determinant of coffee reforms and driver of Burundi's coffee comparative advantage in the EAC region.

ACKNOWLEDGEMENT

This publication is a product of a project funded by the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). The views expressed are not necessarily those of ASARECA.

REFERENCES

Balassa, B. 1965. Trade liberalisation and revealed cmparative advantage. *Manchester School* 33 (2): 327-345.

Bebek, U.G. 2011. Monotonicity of additive indices of revealed comparative advantage. *Economics Bulletin* 31 No.2. Available at: http://www.accessecon.com/Pubs/EB/2011/Volume31/EB-11-V31-I2-P170.pdf. Accessed 22 November 2013.

Bussolo, M., Godart, O. Lay, J. and Thiele, R. 2006. The impact of commodity price changes on rural households: The case of coffee in Uganda. World Bank Policy Research Working Paper 4088, Washington D.C., USA.

Chingarande, A., Mzumara, M. and Karambakuwa, R. 2013. Comparative advantage and economic performance of East African Community (EAC). *Journal of Economics* 4 (3): 39-46.

Fairtrade Foundation, 2012. Fair trade and coffee. Faidtrade Fondation Commodity Briefing, May 2012, London, UK.

FAOSTAT, 2013. FAO Database. Available at: http://faostat.fao.org/site/535/DesktopDefault.aspx?PageID=535#ancor. Accessed on 10 September 2013.

International Coffee Organisation (ICO). 2013. ICO Database. Available at: http://www.ico.org/new_historical.asp. Accessed on 10 September 2013.

Kang, H.K. and Kennedy, P.L. 2009. Empirical evidences from a coffee paradox: An rxport dupply/price asymmetry approach. *Journal of Rural Development* 32(3): 107-137.

Makochekanwa, A. 2007. Botswana's revealed comparative advantage. Munich Personal

RePEC Archive. http://mpra.ub.uni-muenchen.de/34564/. Accessed 22 November 2013.

Mhando, D.G., Haller, T., Mbayale, G. and Ludi, E. 2013. Adaptation to changes in the coffee value chain and the price of coffee among coffee producers in two villages in Kilimanjaro, Tanzania. *African Study Monographs* 34 (1): 27-56

Mmri, D. 2012. Competitiveness of Tanzania coffee growers amid bifurcated coffee markets. REPOA Policy Research for Development Brief No. 30.

Mutandwa, E., Kanuma, N.T. and Rusatira, E. 2009. Analysis of coffee export marketing in Rwanda: Application of Boston Consulting Group Matrix. *African Journal of Business Management* 2 (4): 210-219.

Mzumara, M., Changarande, A. and Karambakwa, R. 2013. An analysis of the revealed comparative advantage in South African development community member States. *Journal of Sustainable Development in Africa* 15(4). http://www.jsd-africa.com/Jsda/Vol15No4-Summer2013B/PDF Accessed 22 November 2013.

Ndimanya, P. and Ndayitwayeko, W-M. 2009. La compétitivité de la filière Thé Burundaise: Des réservoirs de productivité à traquer. *Cahier de CURDES* 10: 1-12.

Nestlé. Faces of Coffee. The Nestlé Report, 2004. Amsterdam, Netherlands.

Nyangito, O.H. 2001. Policy and legal framework for the coffee subsector and the impact of liberalization in Kenya. Kenya Institute of Public Policy Research and Analysis (KIPPRA), Policy Paper No. 2.

Otim, S. and Ngategize, P.K. 1993. Uganda coffee supply response and export demand: An econometric analysis. *African Crop Science Journal* 1 (2): 175-182.

PAGE. 2007. Burundi Coffee Pilot Selection and Planning. Technical Note of Project Support of Economic Management Institute (PAGE), Bujumbura, Burundi.

Run, Y., Cai, Y. and P.S. Leung, P.S. 2009. The normalized revealed comparative advantage index. *Annals of Regional Science* 43 (1): 267-282.

Shinyekwa, I. and Othieno, L. 2011. Uganda's revealed comparative advantage 2011: The evidence with the East African Community (EAC) and China. Economic Policy Research Center (EPRC), Uganda Research Series 80.

USAID, 2010. Burundi coffee industry value chain analysis: Profiling the actors, their interaction, cost constraints and opportunity. COMPETE East Africa Hub.

USAID, 2007. Reform of the coffee sector in Burundi: Prospects for participation, prosperity and peace. USAID and International Alert Publication, London, UK.

USAID. 2012. Best analysis: Burundi. USAID and Fintrac Inc. Publication, Washington, USA.

World Bank. 2011. Republic of Burundi Country Economic Memoradum (CEM). World Bank Report No. 51880-BI, Washington, USA.