ASSESSING ECONOMIC POTENTIAL OF FOREIGN TRADE THE CASE OF RWANDA

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Abstract - The study focuses on the multidimensional characteristics of foreign trade of Rwanda and the potential of Rwanda in terms of foreign economic relations. This country has created macroeconomic stability and an increasingly attractive investment conditions for foreign investors, trading partners, business start-ups, entrepreneurs and other private sector actors.
Therefore the study attempts to achieve the following objectives:
1. Evaluating the potential of the Rwandan exports;
2. Formulating of policy recommendations for development of Rwandan international economic relations.
In this article an attempt was made to evaluate of Rwandan exports potential is on the base of the index of indicative trade potential.

Keywords: Rwanda; economic potential; foreign trade; indicative trade potential;

I. INTRODUCTION

The last decades of the 20th century brought a significant acceleration in the processes of globalization, exemplified by the increase in global interactions, the diminishing of geographical barriers in the flow of goods, capital, services, technology, information and ideology, the development of mass culture and the increasingly intense bilateral, as well as multilateral trade relations. At that time most the Eastern African countries played a relatively small part in these processes. The first decade of the 21st century, however, brought about fundamental qualitative changes in Eastern African countries, indicating the potential and the developmental possibilities arising out of it (Cargill, 2010). Individual countries in the region, e.g. Rwanda, recorded the fastest economic growth in the world economy, while most of the developed economies suffered from the economic crisis and its consequences. The next decades however are expected to be a period of accelerated economic growth and development for the Eastern African region. Therefore, the study focuses on the multidimensional characteristics of the economy of one of the fastest growing state of Eastern Africa - Rwanda. This country has created macroeconomic stability and an increasingly attractive investment climate for business, entrepreneurs and other private sector actors.

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To make sure that the results are consistent and comparable, data were obtained from databases kept by international organizations, mainly from the World Bank, the Organisation for Economic Co-operation and Development, the United Nations Conference on Trade and Development, African Development Bank, and World Trade Organization databases. The paper consists of three sections and introduction. The first part of the article defines the trends in the international economic relation of Rwanda and focuses on trade and investment flows. The second section evaluates the potential of the Rwandan exports to its major trade partners using indicative trade potential. In the third section which is also conclusionswe attempted to formulate recommendations for the economic policy of Rwandan government and agencies that support international trade of the Rwandan enterprises.

II. RWANDA'S FOREIGN TRADE: POTENTIAL DEVELOPMENT

The diversity of the revealed comparative advantages is also reflected in the degree of similarities between foreign trade commodity structures of Rwanda and the other states. In this study, the foreign trade commodity structures of the largest economic blocs in Africa were adopted as the model. This analysis enabled us to indicate the economic integration blocs similar to Rwanda in terms of foreign trade structures (applying Standard International Trade Classification, Rev.3). The Euclidean metric formula was used in the study of the degree of similarity. Comparing 2001, 2005, 2010 and 2016, it can be observed that the structure of commodities exported by Rwanda has been becoming more similar to EAC'sandCOMESA'sstructures since 2005. We also observed that at the beginning of the 21st century, Rwanda had clearly drifted away from the COMESA'smodel, but has become more similar to EAC. Rwandan exports is quite similar to Kenyan, but differs from the DRC's export significantly (Figure 3). It gives the possibility, that the larger

difference between exports structures, the higher possibility for bilateral trade development. In analysis below we discuss this statement using indicative trade potential formula.

Products group	X_{ik}	X_{jk}	X_{ijk}	min (X_{ik}, X_{jk})	ITP_{ijk}
[334] Petroleum oils or bituminous minerals > 70 % oil	119721.3	1446671	4427.363	119721.3	115294
[074] Tea and mate	73791.28	82051.81	36135.2	73791.28	37656.08
[686] Zinc	0	35657.96	0	35657.96	35657.96
[042] Rice	29104.59	123872.7	43.472	29104.59	29061.12
[422] Fixed vegetable fats and oils, crude, refined, fract.	14238.7	393565.1	0	14238.7	14238.7
[431] Animal or veg. oils and fats, processed, n.e.s.; mixt.	20446.79	14227.8	92.239	14227.8	14135.56
[046] Meal and flour of wheat and flour of meslin	23800.24	12209.13	6.192	12209.13	12202.94
[831] Travel goods, handbags and similar containers	11940.21	60363.21	12.305	11940.21	11927.9
[047] Other cereal meals and flour	9520.818	11731.11	0	9520.818	9520.818
[278] Other crude minerals	8198.481	26575.72	0.563	8198.481	8197.918
Total	744400	14141306	49921.78	744400	694478.2

Table 1. Indicative trade potential with Kenya in 2016 (thousands of dollars)
Source: Author's calculation on a basic of (UNCTAD, 2017).

The evaluation of Rwandan exports potential is on the base of the index of indicative trade potential(ITP) . We took into account the most important exports partners: COMESA, EAC, the DRC, and Kenya.
ITP it is a purely mechanical indicator defined as
$ITP_{ijk} = \min (X_{ik}, X_{jk}) – X_{ijk}$,
where:
$X_{i.k} = \sum_{j=1}^{J} X_{jik}$-
$X_{.jk} = \sum_{i=1}^{I} X_{ijk}$

The idea behind ITP indicator is to identify the goods for which there is the highest trade complementarity between the exports of a country (in our case Rwanda) and the imports of the target country/ region (COMESA, EAC, DRCand Kenya). The trade potential indicator assumes that the importing country/ region could in principle absorb perfectly all imports from Rwanda. Comparing the indicative trade potential of analyzed countries and integration groups in 2016 the largest trade potential in absolute numbers we did not observe in case of COMESA or EAC, but in case of Kenya: USD 694.5 million, which stated 7.19 per cent of actual exports. Actual trade with Kenya covered only small part of Rwandan exports that constitutes the great opportunity for increasing the value of trade, especially in following product groups: petroleum oils or bituminous minerals> 70 % oil, tea and mate, zinc, rice, and fixed vegetable fats and oils, crude, refined, fract. Unfortunately, we observe the greatest potential in bilateral trade in primary and definitely not advanced goods. This draws rather average or unfavourable prospects for the future bilateral trade and presents the need of rebuilding exports structure into more advanced products in the near future (Table 1). The Rwandan second exports partner with the largest potential trade were the members of EAC (USD 652.2 million). The actual Rwandan exports covered 14.14 per cent of the value of potential exports. Except for product group "Petroleum oils or bituminous minerals > 70 % oil" which potential trade was the highest in 2016 (USD 96.8 million), the most promising products group are: zinc (EAC's members do not import this product from Rwanda at all), tea and mate, and rice. The situation of Rwandan trade with EAC suffers from the same problem: the exports structure is dominated by not advanced products. This indicates the urgent need to change the structure and focusing on more technological advanced goods (Table 2).

Products group	X_{ik}	X_{jk}	X_{ijk}	min (X_{ik}, X_{jk})	ITP_{ijk}
[334] Petroleum oils or bituminous minerals > 70 % oil	119721.3	4079317	11465.59	119721.3	108255.8
[686] Zinc	0	58116.53	0	58116.53	58116.53
[074] Tea and mate	73791.28	87358.33	37146.39	73791.28	36644.89
[042] Rice	29104.59	189034.3	51.588	29104.59	29053.01
[046] Meal and flour of wheat and flour of meslin	23800.24	22959.91	64.825	22959.91	22895.08
[071] Coffee and coffee substitutes	76308.78	24135.07	2512.179	24135.07	21622.89
[431] Animal or veg. oils and fats, processed, n.e.s.; mixt.	20446.79	77444.01	188.692	20446.79	20258.1
[422] Fixed vegetable fats and oils, crude, refined, fract.	14238.7	791669.5	6.905	14238.7	14231.8
[831] Travel goods, handbags and similar containers	11940.21	92471.75	46.107	11940.21	11894.1
[047] Other cereal meals and flour	9520.818	21855.31	64.714	9520.818	9456.104
Total	744400	31748280	92217.03	744400	652183

Table 2. Indicative trade potential with the EAC states in 2016 (thousands of dollars)
Source: Author's calculation on a basic of (UNCTAD, 2017)

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The DRChas been Rwandan most important export market for many years.Rwandan current exports to the DRC covered more than a half of potential trade, what amounted to USD 468.3 million. Generally, we can find potential in increasing trade in following product groups: petroleum oils or bituminous minerals > 70 % oil, vegetables and other crude minerals. These three groups characterized the largest potential trade in 2016. It is important that the large exports potential is in more advanced products as: telecommunication equipment and motor vehicles for peoples and special purpose. This gives the great prospects of quick advancing and improving the structure of trade with the DRC(Table 3).

Products group	X_{ik}	X_{jk}	X_{ijk}	min (X_{ik}, X_{jk})	ITP_{ijk}
[334] Petroleum oils or bituminous minerals > 70 % oil	119721.3	245904.9	98071.23	119721.3	21650.12
[054] Vegetables	7353.956	11420.18	173.288	7353.956	7180.668
[278] Other crude minerals	8198.481	56738.82	1081.285	8198.481	7117.196
[764] Telecommunication equipment, n.e.s.; and parts, n.e.s.	4855.509	70229.26	243.881	4855.509	4611.628
[081] Feeding stuff for animals (no unmilled cereals)	4741.939	4587.677	0.978	4587.677	4586.699
[781] Motor vehicles for the transport of persons	6690.693	49441.26	2480.292	6690.693	4210.401
[292] Crude vegetable materials, n.e.s.	4128.712	4890.127	217.783	4128.712	3910.929
[782] Motor vehic. for transport of goods, special purpo.	3736.498	83496.67	175.406	3736.498	3561.092
[716] Rotating electric plant and parts thereof, n.e.s.	2744.123	54521.17	53.144	2744.123	2690.979
[723] Civil engineering andcontractors' plant and equipment	2378.788	154475	5.061	2378.788	2373.727
Total	744400	4698989	276092.1	744400	468307.9

Table 3. Indicative trade potential with the DRC in 2016 (thousands of dollars)
Source: Author's calculation on a basic of (UNCTAD, 2017).

The lowest potential in bilateral trade development we can see in terms of COMESA, because the actual trade between Rwanda and COMESA amounted to above 96 per cent of indicative trade. The total amount of ITP was only USD 379.1 million. The most promising exports niches for Rwandan products were: petroleum oils, oils from bitumin. materials, crude, copper ores and concentrates; copper mattes, cement, and zinc. Like in EAC and Kenya, COMESA's imports from Rwanda seems to be very primary and the prospects of improvements are quite poor(Table 4).

Products group	X_{ik}	X_{jk}	X_{ijk}	min (X_{ik}, X_{jk})	ITP_{ijk}
[333] Petroleum oils, oils from bitumin. materials, crude	0	2256179	0	2256179	2256179
[283] Copper ores and concentrates; copper mattes, cement	0	631692.6	0	631692.6	631692.6
[686] Zinc	0	158173.4	0	158173.4	158173.4
[287] Ores and concentrates of base metals, n.e.s.	129913.5	206315.1	959.099	129913.5	128954.4
[043] Barley, unmilled	0	126419.4	0	126419.4	126419.4
[677] Rails and railway track construction mat., iron, steel	0	123158.5	0	123158.5	123158.5
[071] Coffee and coffee substitutes	76308.78	219844	2408.236	76308.78	73900.55
[971] Gold, non-monetary (excluding gold ores and concentrates)	56719.42	92702.31	0.229	56719.42	56719.19
[074] Tea and mate	73791.28	412829.3	37278.76	73791.28	36512.52
[831] Travel goods, handbags and similar containers	11940.21	242375.8	95.854	11940.21	11844.36
Total	744400	144837825	365231.8	744400	379168.2

Table 4. Indicative trade potential with the COMESA states in 2016 (thousands of dollars)
Source: Author's calculation on a basic of (UNCTAD, 2017).

In almost all analyzed partners petroleum oil etc., zinc and minerals were the most promising exports goods. Still, the low potential is in more advanced products. Therefore, the prospects for Rwandan exports are quite pessimistic, if the country does not rebuild its exports structure. However, we should be aware of some limitation of this study. Firstly, the analysis was carried out ex post, which does not take into account any future trends and developments in trade between Rwanda and its trade partners. Secondly, the construction of ITP indicator is based on the assumption that all Rwandan exports within the scope of a product group may be intended to cover all demand of analyzed trade partners. However we should treat the Rwandan potential exports values only as indicative value. These results can be use as the future directions of Rwandan exports to analyzed markets.

CONCLUSIONS: POLICY RECOMMENDATIONS

The current priority for Rwandan government is to reduce the development gap between the country and the developed states. One of the means to achieve this goal is to ensure proper management of foreign trade, gradually join the global economy (being a signatory of many international agreements) and shape doing business environment. Moreover, Rwanda characterizes sustained high economic growth, which is supported by sound macroeconomic management and quite good fiscal discipline. A clear vision of the government for growth and its engines makes country very attractive. Institutions are quite stable and functional. Moreover, introduction the rule of law and zero tolerance for corruption creates investor friendly climate. Perhaps Rwandan market is not very huge and developed, but it grows rapidly and the middle class is getting richer. Rwanda is also a very high labour efficiency and offers flexible supply of employees. Recently, workforce has been improving its capacity for knowledge-based industry. It is noticeable that Rwanda has climbed in almost all important global rankings. The infrastructure of analysed country is really advanced: rail, air, logistics investment opportunities abound to develop Rwanda as an EAC hub. Rwanda continues to be one of the fastest growing African countries in ICT (key priority in "Vision 2020") and there are several avenues for growth for the advanced technology sector: from e-

commerce and e-services, mobile technologies, applications development and automation to becoming a regional centre for the training of top quality ICT professionals and research.The intensification of economic expansion on the Rwandan market is bound up with economic and geopolitical reasons, such as the developed countries, inter alia the EU economic and political problems, Brexit, debt, migration crisis, etc. Moreover, developed and developing countries are focused on geographic diversification of their foreign trade and capital flows in order to ensure their positive impact on the level of foreign income of the economy. Therefore, Rwanda can be perceived as the prospect market for trade and investment geographical diversification process.

Based on the research conducted, the following conclusions and recommendations can be offered to stimulate Rwandan international expansion in terms of foreign trade and foreign investments:

1. Rwanda is characterized by the high economic potential, development opportunities and growing competitiveness (in international terms) against the background of the East African states. Moreover, Rwanda's prospects for development are good, as evidenced by multidimensional indicators improving from year to year. However, many areas of Rwandan real economy and financial sector need improvement, e.g. the level of development of education, technology and infrastructure, barriers to the issuance of construction permits, or problems with the supply of electricity, and the protection of minority investors. These critical areas need changes and improvements. They are pointed out inter alia by the international organizations when they create the multidimensional indexes and rankings.
2. Rwanda's market still needs advanced technology solutions in almost every dimension of economic activity. In terms of foreign trade, Rwanda does not have any reveal competitive advantage or specialization in any advanced products exports. Country imports most of technologically advanced product groups. Therefore, Rwandan government should support and beextremely interested in international cooperation in these terms.
3. The total exports potential of Rwanda is high, especially when we analyse its main trade partners and indicative trade potential. However, the exports structure within the main trading partners (countries and integration groups) needs improvements towards more advanced product groups. The most popular exports goods are quite primary. If Rwanda wanted to join into global value chains and wanted to be ranked in upmarket segments in terms of value added embodied in gross exports of Rwandan partners, it should rebuild the exports structure and focus more on advanced products. At the moment, the structure of Rwandan exports to the DRC seems to be the pattern for the rebuilding the exports structure.
4. The intensification of economic expansions needs the actions at the level of central and local government administration of Rwanda. It will be necessary to gather detailed information on the African markets and other prospective global markets for Rwandan exporters and entrepreneurs, their potential, development opportunities, consumer demand, institutional conditions (including trade barriers, tax systems, investment incentives), conditions and climates to operate as well as identifying priority markets and industry directions for potential cooperation.
5. Rwandan government should consider expanding and developing the number of diplomatic missions, consular offices, chambers of commerce etc., not only in Africa, but in the most important trade and investment partners.These entities would strengthen the presence of Rwandan enterprises abroad and support their business. Moreover, Rwanda should develop the economic sections of existing diplomatic missions and set up targeted governmental economic agencies. This would help to better understand the specifics of the markets and the support Rwandan companies in the foreign markets. The increase in the number of governmental agencies would also indicate a desire to strengthen relations with continental countries, which could facilitate the pursuit of business interests and increase the interconnectedness.
6. Effective stimulation of economic expansion of Rwanda will require the further development of trade and investment support instruments such as government guarantees, export credits (preferential ones) and interbank investment funds as well as the implementation of new measures. Another important element of governmental support may be the encouragement in setting up chambers of commerce and commerce both in new abroad agencies as well as in existing ones which serve free advisory and consultation activities. It will be important to create and support existing governmental consulting agencies and capital groups that serve Rwandan companies that plan abroad existing.
7. It will be necessary to institutionalize promotional activities on selected (priority) markets and their specific information campaign. It is important to strengthen the promotion and long-term development of the perception of both the country itself and the products and services offered by the various Rwandan enterprises. The national branding activities aiming at creating a proper image of the Rwandan brand awareness in

the African markets are needed. It is important that the Rwandan products offered abroad should be identified with modernity, solidity and quite high quality workmanship.

8. It is important for Rwandan entrepreneurs and supporting agencies to seek and identify international market niches in which they may achieve the competitive advantage in long term. Moreover, they should anticipate the changes that have taken place in the exports markets and the prospects for their further development.
9. In terms of foreign investments activity of Rwanda the consideration should be given to the interest of internationalization in the form of investments of a minority character. At the initial stage of internationalization, Rwandan investors and entrepreneurs need business partners from well-developed or higher than Rwanda developed countriesin order to better understanding the market, culture, including business culture, increase efficiency in recruitment, confidence and efficiency in building relationships at central or local government level. This seems particularly important at the beginning of the Rwandan capital expansion. At the same time, such investment projects should allow Rwandan entrepreneurs access to East Africanand global markets - increasing export as a result - through existing distribution networks, business contacts, and market knowledge.
10. In the context of investment international cooperation, it is desirable for Rwandan government agencies to cooperate with other government agencies (from other countries) in promoting mutual investment. More bilateral or multilateral investment agreements can stimulate capital flows between Rwanda and the world.
11. If Rwandan companies (private and public ones) wanted to develop international relation,they should create cooperation withwell-developed and fast developing countries' enterprisesin a form of joint ventures. These forms of cooperation can be extremely useful in common direct investments and undertakings of logistic and distribution nature. This form of investment activity will help to bridge the barriers associated with different business culture and doing business standards in Rwandan and the developed and developing markets.
12. The reasons for intensifying foreign economic cooperation with Rwanda include:growing private consumption and governmental expenditures, which are connected to building the transport, telecommunication, production infrastructure, and social services; demographic potential and demographic structure, growing middle class; changing the global economy and joining to global value chains (Dicken et al., 2001).

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Note:The Euclidean metric $\sqrt{\sum_{i=1}^{n}(x_i - y_i)^2}$ has been used as the measure of similarity. The closer the value is to one, the more different are the export structures of the analysed blocs. The closer the value is to zero, the more similar the commodity structures.
Source: Author's own calculations on the basis of (UNCTAD 2017)using SITC Rev.3.

Figure 3. Indicators of similarity of the export commodity structure of Rwanda with the COMESA states, the EAC states,the DRC and Kenya in 2001, 2005, 2010 and 2016.

