

УДК 330.

МАКАРЯН АННА РУЗВЕЛЬТОВНА

к.э.н., научный сотрудник Института экономики им. М. Котаняна НАН РА,
e-mail: anna_makaryan@yahoo.com

ЭКСПОРТ ДЖЕНЕРИКОВ В РОССИЮ КАК ОДИН ИЗ ДРАЙВЕРОВ РОСТА СЕКТОРА ПО ПРОИЗВОДСТВУ ФАРМАЦЕВТИЧЕСКОЙ, ЛЕКАРСТВЕННО-ХИМИЧЕСКОЙ И БОТАНИЧЕСКОЙ ПРОДУКЦИИ В АРМЕНИИ

Аннотация. *Цель:* выявление роли экспорта фармацевтической продукции, а также дженериков, в целом и в Россию, в обеспечении роста реального объема производства сектора по производству фармацевтической, лекарственно-химической и ботанической продукции, а также приоритетов, которые правительство Армении должно преследовать для обеспечения роста отрасли. *Методологический подход:* путем конвертации номинальных месячных значений объема производства сектора по производству фармацевтической, лекарственно-химической и ботанической продукции, экспорта дженериков и фармацевтической продукции в реальные значения и через сезонную корректировку данных и тест на наличие стационарности, было оценено статистически значимое влияние этих переменных на реальный объем производства с помощью метода наименьших квадратов для периода 2011:3-2017:12, где была использована логарифмические значения и первая разность реальных значений переменных. Также был произведен расчет удельных значений (чистый вес в килограммах) экспортируемых подгрупп фармацевтической продукции (в текущих долларах США). *Результаты:* если реальный экспорт фармацевтической продукции возрастет на 10% в период времени t , то может, в среднем, за собой повлечь статистически значимые изменения в реальном объеме производства сектора по производству фармацевтической, лекарственно-химической и ботанической продукции на 2.24% в период времени t , между тем, те же изменения в реальном экспорте дженериков могут привести к 2.22% увеличению реального объема производства сектора в период времени t . Стоимость единицы (нетто в килограммах) экспортируемых дженериков в другие страны (кроме России) (в текущих долларах США), в основном снижалась (за исключением 2013г.), в то время как в случае с Россией, суммы, полученные от экспорта произведенных в Армении дженериков начали расти и сопровождалась увеличением значений на единицу продукции в период с 2011 по 2017 (кроме 2015), означая, что Армения, в целом экспортировала в Россию более дорогие дженерики. *Вывод:* будущий рост экспорта дженериков в Россию, и в частности лекарственных средств более высокой стоимостью, позволит отрасли обеспечить более высокие темпы роста объема производства, наряду с увеличением экспорта других подгрупп экспортируемой фармацевтической продукции. Приоритеты правительства Армении будут содействовать местным производителям лекарственных средств в деле производства и представления новых дженериков более высокой стоимостью, которые не были ранее произведены как в Армении, так и России, и могли бы конкурировать с российскими фармацевтическими компаниями в случае их производства в России; и в деле освоения новых рынков, сосредоточиваясь на российском рынке, как основным экспортным направлением для продвижения дженериков. *Практическое применение:* полученные результаты могут быть использованы Министерством экономического развития и инвестиций Республики Армения и "Business Armenia" в подготовке будущих планов действий, разработке стратегий по развитию сектора по производству фармацевтической, лекарственно-химической и ботанической продукции, и т. д.

Ключевые слова: дженерики, фармацевтическая продукция, экспорт, реальная продукция, Армения

MAKARYAN ANNA ROOSEVELTOVNA

*Candidate of Economic Sciences, Research Associate of the Institute of Economics named after M. Kotanyan of the National Academy of Sciences of the Republic of Armenia,
e-mail: anna_makaryan@yahoo.com*

GENERICS' EXPORTS TO RUSSIA AS ONE OF THE DRIVERS OF OUTPUT GROWTH OF THE MANUFACTURE OF PHARMACEUTICALS, MEDICINAL CHEMICAL AND BOTANICAL PRODUCTS INDUSTRY IN ARMENIA

Abstract. Purpose: to identify the role of exports of Pharmaceutical products, and generic drugs, in general, and in Russia, in explaining the growth of real output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry and to highlight the priorities the Government of Armenia needs to pursue to ensure the Industry growth. **Design/methodological approach:** by converting nominal monthly values of the output of manufacture of pharmaceuticals, medicinal chemical and botanical products industry, exports of generic drugs and pharmaceutical products into real ones, and through seasonally adjusting the data and performing stationary tests, the statistically significant impact of thereof on the real output was estimated using ordinary least squares with variables in logs and their first difference for the sample period 2011:3-2017:12. Per unit values (net weight in kilograms) of exported sub-groups of pharmaceutical products and generic drugs by destination (current US dollars) were calculated as well. **Findings:** Estimation results state that if the real value of the exports of the pharmaceutical products increases by 10% in period t it would cause statistically significant changes in the real output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry by 2.24% in period t , on average, meanwhile, the same change in the real value of the exports of generic drugs could cause a 2.22% increase in the real output of the Industry in period t . Per unit value (net weight in kilograms) of generic drugs (current US dollars) exported to other nations (except Russia) was mainly declining over time (except in 2013), while in the case of Russia, the amounts received from exporting domestically produced generic drugs started growing accompanied with the increase in the per unit value from 2011 to 2017 (except 2015), meaning that Armenian exports of generic drugs to Russia were of higher value, in general. **Conclusion:** The future increase of the exports reported in generic drugs to Russia, and in particular of higher value drugs, would enable the industry to report higher output growth rates, along with increase reported in exports of other sub-groups of the exports of Pharmaceutical products. The priorities of the Government of Armenia would be to assist the local drug producers in producing and introducing new generic drugs of higher value that haven't been previously manufactured both in Armenia and Russia that could compete with Russian pharmaceutical companies in the case of manufacturing them in Russia; and in penetrating new markets, while focusing on the Russian market as the main export destination to promote generic drugs to. **Practical Implication:** the findings could be used by the Ministry of Economic Development and Investments of Armenia, and Business Armenia in drafting future action plans, elaborating strategies with respect to developing the manufacture of pharmaceuticals, medicinal chemical and botanical products industry, etc.

Keywords: Generics, pharmaceutical products, exports, real output, Armenia

Introduction. Based on the classification of economies proposed by Jim O'Neill [1] BRICs (Brazil, Russia, India, and China, the group coined in 2001) later transformed into BRICS (with South Africa joining these group of economies on December 24, 2010) [2] and MIST (Mexico, Indonesia, South Korea and Turkey, the group that was coined a decade later) [3], [4], [6] are the nations where the pharmaceutical market sales reported a growth of about 100% in 5 years, "reaching a market share of approximately 20%" and "attributed to the large populations, growing prosperity, and increasing life expectancy" (Tannourys and Attieh, 2017:19) [6, p. 19]. BRIC countries are "still the leaders and are expected to remain in leadership until the end of the decade." (Tannourys and Attieh, 2017:21) [6, p. 21].

In 2017, the pharmaceuticals imports to Russia accounted for 4.8% of the total imports to Russia and were ranked as the 4th major group of items to be imported by Russia, reaching 10.8 billion US

dollars [21]. During the first nine months of 2017, the revenues received by importers reported a 24.1% increase, reaching 6.1 billion US dollars (the increase has been observed in shipments since 2014) [22]. Russia was mainly importing “expensive new generation drugs” [22]. According to the Ministry of Industry and Trade of the Russian Federation, the increase in imports was explained by the “expanding domestic pharmaceutical market”, with the share of domestically manufactured items reporting an increase as well [22].

Upon ratification of the regulatory framework for medicines circulation in the Eurasian Economic Union (the EAEU) (May 6, 2017) [24], according to the Minister of the Eurasian Economic Commission, Valery Koreshkov, “National medicines markets of the five Member States of the Eurasian Economic Union (EAEU) [will] unify and start operating in the format of a single space. Manufacturers of the Union countries will be able to apply for registration of medicines and their release under common procedures and reduce administrative costs” [23].

As a member-state of the Eurasian Economic Union, Armenian pharmaceutical companies would have a chance to increase exports of pharmaceutical products to the Russian Federation, in particular with respect to domestically manufactured generic drugs by:

- mainly introducing generics with comparatively higher value-added (and/or higher value drugs) and at comparatively low prices, thus competing with predominantly Russian competitors;
- introducing such generic drugs that haven’t been previously manufactured by Russian pharmaceutical companies.

The Armenian exports of Pharmaceutical products have started plummeting since 2015 and reached 21.86 million US dollars in 2017, while compared to 9.70 million US dollars in 2014 (see Figure 1). Exports of pharmaceutical products to Russia accounted for about 65% of the total exports of pharmaceutical products in 2017, while compared to 18% in 2014 ([9]; author’s own calculations) (see Figure 1). The growth of the Pharmaceutical exports was mainly driven by the exports to Russia (see Figure 1).



Figure 1: Pharmaceutical Products exports to Russia and the World (million US dollars) from 2011 to 2017

Source: [9].

From 2011 to 2014 the exports of the pharmaceutical products (Group 30) from Armenia was mainly explained by the exports of generic drugs (sub-group 3004) according to Harmonized System of Commodity Nomenclature of the World Customs Organization (2017 Edition) [25]; while starting from 2015 the exports of vaccines (for veterinary medicine) (sub-group 3002) have started plummeting (see Figure 2) ([9]; author’s own calculations). The share of exports of generic drugs in the total exports of pharmaceutical products varied from 80.6% to 90.8%, while the share started declining from 2015 to 2017 and it amounted to 60.2% in 2017 (see Figure 2) ([9]; author’s own calculations). In 2017, the exports of generic drugs to Russia accounted for 56.1% of the total exports of generic drugs from Armenia ([9]; author’s own calculations), making Russia a priority export market to penetrate by both introducing new higher value generic drugs and increasing the sales of the existing ones.

Hence, the main purpose of the article is to identify the role of exports of Pharmaceutical products, and generic drugs, in general and in Russia, in explaining the growth of real output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry and to highlight the priorities the Government of Armenia needs to pursue to ensure the Industry growth.

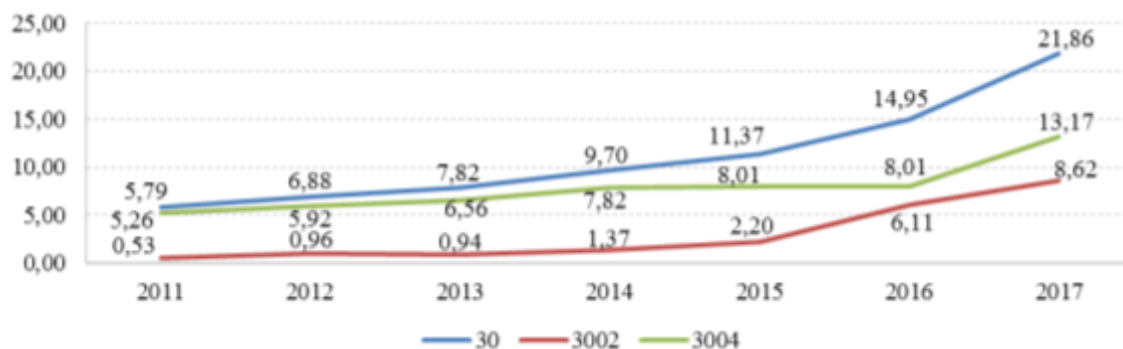


Figure 2: Exports of Pharmaceutical Products (Group 30); Medicaments; (not goods of heading no. 3002, 3005 or 3006) consisting of mixed or unmixed products for therapeutic or prophylactic use, put up in measured doses (incl. those in the form of transdermal admin. systems) or packed for retail sale (sub-group 3004); and Human blood; animal blood for therapeutic, prophylactic or diagnostic uses; antisera, other blood fractions, immunological products, modified or obtained by biotechnological processes; vaccines, toxins, cultures of micro-organisms (excluding yeasts) etc. (sub-group 3002) according to Harmonized System of Commodity Nomenclature of the World Customs Organization (2017 Edition) [25] (million US dollars) from 2011 to 2017

Source: [9].

Design/methodological approach

Our models are defined as:

Real output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry = f (real value of exports of Group 30 (Pharmaceutical products)) (1);

Real output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry = f (real value of exports of sub-group 3004 (Medicaments; (not goods of heading no. 3002, 3005 or 3006) consisting of mixed or unmixed products for therapeutic or prophylactic use, put up in measured doses (incl. those in the form of transdermal admin. systems) or packed for retail sale) (2).

84 observations are included in our dataset covering the period 2011:1-2017:12 (monthly data). The nominal monthly values of output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry (hereafter the Industry) [19], and exports of pharmaceutical products (hereafter group 30), and Medicaments; (not goods of heading no. 3002, 3005 or 3006) consisting of mixed or unmixed products for therapeutic or prophylactic use, put up in measured doses (incl. those in the form of transdermal admin. systems) or packed for retail sale (hereafter sub-group 3004) [20] were converted into real ones (2011=100) ([10], [11], [19], [20]; author's own calculations) by utilizing the methodology offered by Bayadyan and Makaryan (2017:25) [7, p.25] and Makaryan (2017:110) [8, p.110]. All monthly data were seasonally adjusted by applying the moving average method. We initially wanted to test the impact of exports of pharmaceutical products to Russia on the Industry output, and estimate the impact of Armenia's accession to the Eurasian Economic Unions (the EAEU), however, owing to the fact that especially monthly exports to Russia were of irregular nature and weren't available for each month from 2011 to 2014, we failed to utilize the moving average method for the period covering 2015-2017, since the latter one requires the availability of 4-year period data. From the other point, since exports to Russia of Group 30 accounted for accordingly 18.1%, 26.7%, 43.3%, and 64.6% from 2014 to 2017 (in the case of the Sub-group 3002: 0.25%, 54.7%, 70.3%, and 78.1% accordingly; and in the case of Sub-Group 3004: 22.3%, 22.8%, 25.9%, and 56.1% accordingly) ([9]; author's own calculations) with the industry growing at a compound annual growth rate of about 15.5% from 2014 to 2017 ([15], [16], [17], [18]; author's own calculations), we could assume that the increase reported in exports to Russia largely contributed to the growth of the industry, hence associating the export flows to Russia as one of the main drivers of the Industry output growth from 2015 to 2017 and largely attributed to the fact of Armenia's accession to the Eurasian Economic Union since January 2, 2015. Therefore, we just estimated these equations to identify the role of exports of Pharmaceutical products, and generic drugs, in particular, in explaining the statistically significant changes in the industry real output by taking the logs of the variables of interest for the entire sample period (2011:1-2017:12). We do admit that by following this method we would just

estimate the impact of changes in total exports of both Pharmaceutical products and generic drugs on the real Industry output and would derive average values that would be expected if exports grow. By doing this we fail to estimate the direct impact of Russian exports, and we just compute average coefficients. The other problem is associated with the value added created in Armenia. If the exports to Russia (especially in the case of generic drugs) start increasing and the growth is reported in the exports of drugs with higher value-added, we do admit that the value of the regression coefficients would start changing over time by having a larger sample period. The estimates are just the starting points that the Government needs to consider in future actions with respect to designing the Industry related action plans, development strategies and drafting other documents. Since the exports of Sub-group 3002 more than doubled in 2016 and reported steady growth in 2017, accounting for about 40% of the exports of Group 30 during the same year, and the share of the exports of the given sub-group didn't exceed 20% in the composition of the exports of Group 30 from 2011 to 2015, the exports of sub-group 3002 are not addressed in this article. Nevertheless, we do admit that the steady growth of the exports of the sub-group would start playing a significant role in explaining the export growth of Group 30 and the Industry output in the future. Therefore, the growth of the exports of sub-group 3002 needs to be one of the topics for the future research.

Augmented Dickey Fuller tests were performed on the variables (lags length: 1). The results showed evidence on non-stationarity, and the variables are stationary at the first difference (lags length: 4) (see table 1).

Table 1.

Augmented Dickey Fuller Test Results

| Period | Variables | | | |
|--|--|--------------------|--------------------|---------|
| | D(LOUTPUTSA) | | | |
| 2011:3-2017:12 | ADF Test Statistic | -4.257121 | 1% Critical Value* | -3.5153 |
| | | | 5% Critical Value | -2.8986 |
| | | | 10% Critical Value | -2.5863 |
| | *MacKinnon critical values for rejection of hypothesis of a unit root. | | | |
| | D(LG30SA) | | | |
| | ADF Test Statistic | -5.457050 | 1% Critical Value* | -3.5153 |
| | | | 5% Critical Value | -2.8986 |
| | | | 10% Critical Value | -2.5863 |
| | *MacKinnon critical values for rejection of hypothesis of a unit root. | | | |
| | D(LG3004SA) | | | |
| | ADF Test Statistic | -5.384263 | 1% Critical Value* | -3.5153 |
| | | | 5% Critical Value | -2.8986 |
| | | 10% Critical Value | -2.5863 | |
| *MacKinnon critical values for rejection of hypothesis of a unit root. | | | | |

Then we estimated the following equations using ordinary least squares (OLS) with variables in the first difference:

Estimation# 1

$$D(LOUTPUTSA_t) = \alpha_0 + \alpha_1 * D(LG30SA_t) + \varepsilon_t \quad (3)$$

Estimation# 2

$$D(LOUTPUTSA_t) = \beta_0 + \beta_1 * D(LG3004SA_t) + v_t \quad (4)$$

Where:

$D(L\text{OUTPUTSA}_t)$ is the first difference of the log of the seasonally adjusted value of the real output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry in period t .

$D(LG30SA_t)$ is the first difference of the log of the seasonally adjusted value of the real exports of Group 30 (Pharmaceutical products) in period t .

$D(LG3004SA_t)$ is the first difference of the log of the seasonally adjusted value of the real exports of Sub-Group 3004 (Medicaments; (not goods of heading no. 3002, 3005 or 3006) consisting of mixed or unmixed products for therapeutic or prophylactic use, put up in measured doses (incl. those in the form of transdermal admin. systems) or packed for retail sale) in period t .

$\alpha_0, \alpha_1, \beta_0, \beta_1$ are model unknown parameters.

ε_t, ν_t are the error terms in period t .

In order to fix the problem of autocorrelation respective orders of MA and AR processes were included in the equations, and afterward, Breusch-Godfrey Serial Correlation LM Test was conducted (see table 2) on the residuals at 5% (lags: 4)

Table 2.

Breusch-Godfrey Serial Correlation LM Test Results

| Estimation | Breusch-Godfrey Serial Correlation LM Test Results | | |
|---|--|----------------------|----------|
| Estimation# 1 Sample period: 2011:3-2017:12 | Breusch-Godfrey Serial Correlation LM Test: | | |
| | F-statistic | 0.635864 Probability | 0.638523 |
| | Obs*R-squared | 2.718643 Probability | 0.605956 |
| Estimation# 2 Sample period: 2011:3-2017:12 | Breusch-Godfrey Serial Correlation LM Test: | | |
| | F-statistic | 1.350266 Probability | 0.259508 |
| | Obs*R-squared | 5.552063 Probability | 0.235191 |

Normality and Ramsey's RESET (number of fitted terms: 1) tests were performed: the evidence of normally distributed error terms was confirmed (see table 3), and no evidence of specification error was identified (see Table 4).

Table 3.

Test for Normally Distributed Error Terms

| Normality Test | Estimation# 1 Sample period: 2011:3-2017:12 | Estimation# 2 Sample period: 2011:3-2017:12 |
|------------------------|--|--|
| Jarque-Bera Statistics | 0.829216 | 0.428552 |
| Probability | 0.660599 | 0.807125 |

Table 4.

Specification Error Test Results

| Estimation | Ramsey RESET Test Results | | |
|---|---------------------------|----------------------|----------|
| Estimation# 1 Sample period: 2011:3-2017:12 | Ramsey RESET Test: | | |
| | F-statistic | 0.620720 Probability | 0.433199 |
| | Log likelihood ratio | 0.658376 Probability | 0.417134 |
| Estimation# 2 Sample period: 2011:3-2017:12 | Ramsey RESET Test: | | |
| | F-statistic | 1.054123 Probability | 0.307774 |
| | Log likelihood ratio | 1.114958 Probability | 0.291007 |

Findings*Estimation #1 Results*

$$D(\text{LOUTPUTSA}) = 0.007 + 0.241 * D(\text{LG30SA}) + [\text{AR}(1) = -0.657, \text{MA}(2) = -0.881, \text{BACKCAST} = 2011:03]$$

(4.595)*** (5.410)*** (-7.518)*** (-16.450)***

Sample: 2011:03 2017:12; Included observations: 82

R-squared: 0.583; Adjusted R-squared: 0.567415

Note: value of t statistics in parentheses

*** significant at 1%.

Estimation #2 Results

$$D(\text{LOUTPUTSA}) = 0.0095 + 0.222 * D(\text{LG3004SA}) + [\text{AR}(1) = -0.6734, \text{MA}(2) = 0.95, \text{BACKCAST} = 2011:03]$$

(9.437)*** (5.522)*** (-7.955)*** (-55.028)***

Sample: 2011:03 2017:12; Included observations: 82

R-squared: 0.575; Adjusted R-squared: 0.558

Note: value of t statistics in parentheses

*** significant at 1%.

The R-squared values state that the independent variables included in the equations could explain about 58% of the variations in the monthly real output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry. The values indicate the fact that the Industry growth would be largely associated with the exports' growth. The R-squared values were pretty close, which means that the export growth impact of the pharmaceutical products on the real output of the industry mainly reflected the changes reported in the exports of generic drugs over the reported period (see figure 2). Hence, a strong export performance of the generic drugs could ensure the Industry real output growth.

Estimation #1 results state that on average, if the real value of the exports of the pharmaceutical products increases by 10% in period t it would cause statistically significant changes in the real output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry by 2.24 percent in period t, other things being equal. Meanwhile, Estimation #2 results indicate that a 10% change in the real value of the exports of generic drugs could cause a 2.22 percent increase in the real output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry in period t. Here again, the expected changes were pretty close, which means that the statistically significant impact of Export Group 30 was largely associated with changes in the exports of Sub-Group 3004 (see figure 2).

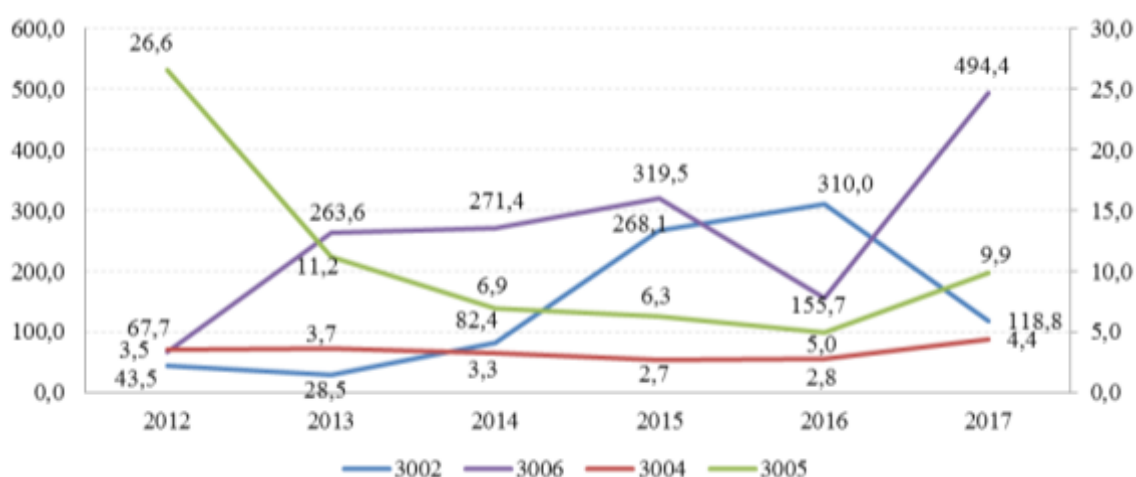


Figure 3: Per unit value (net weight in kilograms) of exported sub-groups of Pharmaceutical products (current US dollars) from 2012 to 2017

Source: [9]. Author's own calculations.

The relatively low values of regression coefficients indicate that Armenia’s exports of pharmaceutical products, mainly generic drugs, are items the value-added of thereof created in Armenian is somehow low (see figure 3). This means, that overall, the value-added of the Pharmaceutical products (mainly sub-groups 3002, 3005, 3006) created in Armenia is, in general, higher (contributed by the exports of the above-mentioned sub-groups), than that of generic drugs exported (see figure 3).

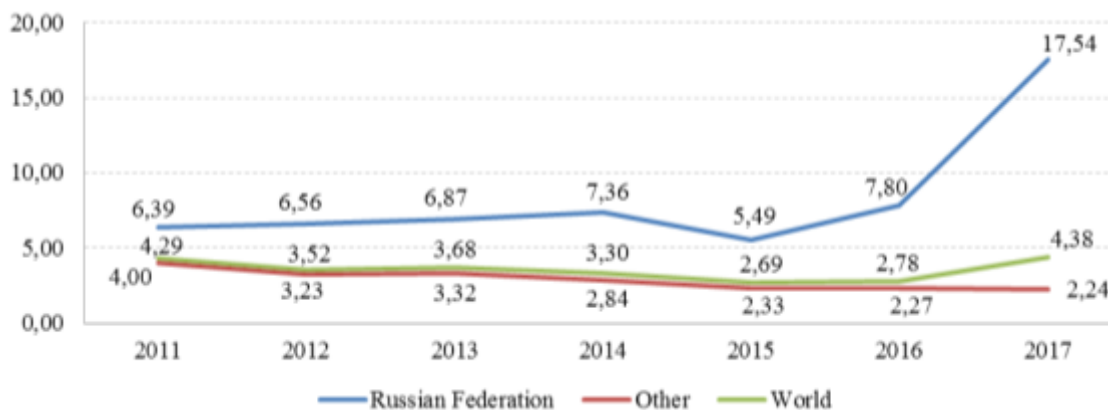


Figure 4: Per unit value (net weight in kilograms) of exported generic drugs (current US dollars) from 2011 to 2017 by destination

Source: [9]. Author’s own calculations.

From 2011 to 2017, per unit value (net weight in kilograms) of generic drugs (current US dollars) exported to other nations (except Russia) was mainly declining over time (except in 2013) and reaching 2.24 US dollars in 2017, while compared to 4.0 US dollars in 2011 (see figure 4). The net weight was growing from 2011 to 2015, and remained at the same level from 2015 to 2017; meanwhile, the amounts earned from exports started declining [9]. This could indicate that in order to remain competitive Armenian pharmaceutical companies, in general, were mainly offering lower prices to compete with foreign rivals in those markets (except Russian market), thus enabling them to earn more from exporting locally produced generic drugs ([9]; authors’ own calculations). In the case of Russia, the amounts received from exporting domestically produced generic drugs started growing accompanied with the increase in the per unit value (net weight in kilograms) from 2011 to 2017 (except 2015), which means that Armenian exports of generic drugs to Russia were of higher value added (see figure 4).

Overall, these trends mean that the future increase of the exports of generic drugs to Russia, and especially of higher value-added would enable the industry to report higher output growth rates, and the statistically significant impact of both exports of pharmaceutical products and generic drugs on the real output of the Industry would grow over time, along with the increase reported in exports of other sub-groups of the exports of Pharmaceutical products as well. Therefore, the two priorities of the Government would be the followings:

- Assist the local drug producers in producing and introducing new generic drugs of higher value that haven’t been previously manufactured in Armenia that could be cost competitive with Russian analogues, and especially in the case of those drugs that haven’t been previously manufactured by Russian pharmaceutical companies;
- Assist local producers to penetrate new markets and promote exports to the Russian market as the highest priority export destination, especially in the case of those generic drugs that proved to be price competitive.

Conclusion. The changes in the exports of pharmaceutical products positively affect and explain the statistically significant changes in the real output of the manufacture of pharmaceuticals, medicinal chemical and botanical products industry. The future Industry output growth would be mainly ensured by the increase reported in exports. The impact of changes in the exports of pharmaceutical products on the real output of the Industry mainly reflected the changes reported in the exports of generic drugs over the reported period. In general, the value-added of the pharmaceutical products (mainly sub-groups 3002, 3005, 3006) created in Armenia was higher than that of generic drugs (sub

-group 3004) exported.

In order to compete with foreign competitors Armenian pharmaceutical companies, in general, were mainly offering lower prices to stay competitive in markets other than Russia, thus enabling them to earn more from exporting locally produced generic drugs. In the case of Russia, the amounts received from exporting domestically produced generic drugs started growing accompanied by the increase in the per unit value (net weight in kilograms) from 2011 to 2017 (except 2015).

Hence, the future increase of the exports reported in generic drugs to Russia, and in particular of higher value drugs, would enable the industry to report higher output growth rates, along with increase reported in exports of other sub-groups of the exports of Pharmaceutical products.

Therefore, the priorities of the Government of Armenia would be to assist the local drug producers in producing and introducing new generic drugs of higher value that haven't been previously manufactured both in Armenia and Russia that could compete with Russian pharmaceutical companies in the case of manufacturing them in Russia; and in penetrating new markets, while focusing on the Russian market as the main export destination to promote generic drugs to.

Practical Implications. The findings of the article could be used by the Ministry of Economic Development and Investments of Armenia, and the Business Armenia in drafting future action plans elaborating strategies and drafting other documents with respect to developing the manufacture of pharmaceuticals, medicinal chemical and botanical products industry, and promoting the exports of Pharmaceutical products, mainly generic drugs.

References:

1. O'Neill, Jim (2001) *Building Better Global Economic BRICs*, *Global Economics*; 66: 1–15. Available at: <http://www.goldmansachs.com/our-thinking/archive/archive-pdfs/build-better-brics.pdf>. (last accessed: July 11, 2018)
2. Smith A., Jack, *BRIC Becomes BRICS: Changes on the Geopolitical Chessboard*, *Foreign Policy Journal*, January 21, 2011.
3. Śledzik, Karol (2012) *BRICS, MIST (MIKT) or G5 - Which 'Club' of Economies Has the Biggest Growth Potential?* (December 20, 2012). Available at SSRN: <https://ssrn.com/abstract=2192004> or <http://dx.doi.org/10.2139/ssrn.2192004> (last accessed: July 3, 2018)
4. Barker, A. (2013), *Which is More Durable: BRICs or MISTs?*, *World Journal of Social Sciences*. 2013; 3 (3):1–10
5. Martin, Eric (2012) *Move Over, BRICs. Here Come the MISTs*, *Goldman Sachs's Jim O'Neill touts another acronym*, *Bloomberg*, By August 10, 2012, <https://www.bloomberg.com/news/articles/2012-08-09/move-over-brics-dot-here-come-the-mists> (last accessed: July 3, 2018)
6. Tannourys, Maya and Attieh, Zouhair (2017). *The Influence of Emerging Markets on the Pharmaceutical Industry*, *Current Therapeutic Research Volume 86* (2017), pp. 19-22, DOI: 10.1016/j.curtheres.2017.04.005
7. Bayadyan, A.H., Makaryan, A.R. (2017). *Interplay of Commercial Bank Lending to the Manufacture of Food Products with the Industry Output in Armenia*, *Regional problems of transforming the economy (Региональные проблемы преобразования экономики)*, No. 1 (75), pp.21-29
8. Makaryan, A.R. (2017). *The Role of Outsourcing in Ensuring the Growth of Wearing Apparel Industry in Armenia*, *Regional problems of transforming the economy (Региональные проблемы преобразования экономики)*, No. 6 (80), pp.107-114
9. United Nations, *UN Comtrade Database*, available at: <https://comtrade.un.org/data/> (last accessed: July 3, 2018)
10. Central Bank of Armenia, "Exchange rate of dram against several currencies" online database, available at: <https://www.cba.am/en/sitepages/statexternalsector.aspx> (last accessed: April 14, 2018)
11. Central Bank of Armenia, "Consumer Price Index (monthly) (over previous month, over December of previous year, over the same month of previous year, over average prices of 2005 year)", online database", available at: <https://www.cba.am/en/sitepages/statrealsector.aspx> (last accessed: April 14, 2018), (in Armenian).
12. National Statistical Service of Armenia, *Main Indicators of Industrial Organizations by Economic Activities (two-digit code)*, by Marzes and Yerevan city for January-December 2011, 2012, NSS: Yerevan, Armenia (in Armenian).
13. National Statistical Service of Armenia, *Main Indicators of Industrial Organizations by Economic Activities (two-digit code)*, by Marzes and Yerevan city for January-December 2012, 2013, NSS: Yerevan, Armenia (in Armenian).
14. National Statistical Service of Armenia, *Main Indicators of Industrial Organizations by Economic Activities (two-digit code)*, by Marzes and Yerevan city for January-December 2013, 2014, NSS: Yerevan, Armenia (in Armenian).
15. National Statistical Service of Armenia, *Main Indicators of Industrial Organizations by Economic Activities (two-digit code)*, by Marzes and Yerevan city for January-December 2014, 2015 NSS: Yerevan, Armenia (in Armenian).
16. National Statistical Service of Armenia, *Main Indicators of Industrial Organizations by Economic Activities (two-digit code)*, by Marzes and Yerevan city for January-December 2015, 2016, NSS: Yerevan, Armenia (in Armenian).

17. *National Statistical Service of Armenia, Main Indicators of Industrial Organizations by Economic Activities (two-digit code), by Marzes and Yerevan city for January-December 2016, 2017, NSS: Yerevan, Armenia (in Armenian).*
18. *National Statistical Service of Armenia, Main Indicators of Industrial Organizations by Economic Activities (two-digit code), by Marzes and Yerevan city for January-December 2016, 2017, NSS: Yerevan, Armenia (in Armenian).*
19. *National Statistical Service of Armenia, Monthly Reports of Main Indicators of Industrial Organizations by Economic Activities (two-digit code), by Marzes and Yerevan city for the period 2012-2017, NSS: Yerevan, Armenia (in Armenian).*
20. *National Statistical Service of Armenia, External trade database According to the Commodity Nomenclature at 4-digit level, available at: <http://armstat.am/en/?nid=148> (last accessed: April 14, 2018)*
21. *Workman, Daniel (2018) "Russia's Top 10 Imports", World's Top Exports (WTE), March 19, 2018, available at: <http://www.worldstopexports.com/russias-top-10-imports/> (last accessed: July 3, 2018)*
22. *GMP News (2017) Drug imports to Russia increased for the first time since 2014, 29.11.2017, available at: <https://gmpnews.net/2017/11/drug-imports-to-russia-increased-for-the-first-time-since-2014/> (last accessed: July 3, 2018)*
23. *Devonshire-Ellis, Chris (2017) "Russia & EAEU Launch Common Regulated Pharma Market", Russia Briefing, August 3, 2017, available at: <https://www.russia-briefing.com/news/russia-eaeu-launch-common-regulated-pharma-market.html/> (last accessed: July 3, 2018)*
24. *Eurasian Economic Commission (2017) In the EAEU, a common medicines market is launched, May 5, 2017, available at: <http://www.eurasiancommission.org/en/nae/news/Pages/5-05-2017.aspx>, (last accessed: July 3, 2018)*
25. *World Customs Organization, Harmonized System Database, available at: <http://www.wcoomd.org/en/topics/nomenclature/instrument-and-tools/tools-to-assist-with-the-classification-in-the-hs/hs-online.aspx> (last accessed: July 11, 2018)*