CENTER FOR ECONOMIC ANALYSES (CEA)
Skopje, Macedonia

Title:
Benefits and Costs from Foreign Direct Investments in the Technological Industrial Development Zones

Case: Macedonia in the period 2007-2014

Center for Economic Analyses – CEA

Skopje
January, 2016

Authors:

Vesna Garvanlieva Andonova

Marjan Nikolov

Gabriela Dimovska

Igor Mitevski

The English version is a translation of the original text in Macedonian, in case of a discrepancy and difference, CEA does not hold responsibility.

This publication was made possible with the support of the British Embassy Skopje under the Dialogues for Vision project which was implemented by the European Policy Institute. The views set out in this publication are those of the authors and do not necessarily reflect the opinion of the British Embassy Skopje

Abbreviations

AFIEPRM	Agency for Foreign Investments and Export Promotion of the Republic of Macedonia
GDP	Gross Domestic Product
VAT	Value Added Tax
SAO	State Audit Office
DTIDZ	Directorate for Technological Industrial Development Zones
EC	European Commission
EU	European Union
EUR	Euro
IRR	Internal Rate of Return
PPP	Public Private Partnership
CPC	Commission for Protection of Competition
MKD	Macedonian Denar
SME	Small and Medium-sized Enterprises
NPV	Net Present Value
FDI	Foreign Direct Investments
SEZ	Special Economic Zones
TIDZ	Technological Industrial Development Zone

Summary

Technological Industrial Development Zones (TIDZs) are one of the forms through which the policies for attracting Foreign Direct Investments (FDI) are being promoted and implemented, their purpose being the acceleration of the economic development by attracting foreign and domestic capital for the development of new technologies and their application in the national economy, increasing the competitiveness and employment. In the three operational zones in the Republic of Macedonia, the companies, established by foreign capital, enjoy significant benefits for the realization of their goal, in the form of tax and non–tax exemptions which have fiscal and other implications, and whose overall benefit or cost cannot be easily quantified.

Under conditions of non-transparency and lack of data and information on the amount of the costs for subsidizing the FDI, this research has a purpose to try to make a quantification of the direct economic costs and benefits, and to calculate the value added from these investments, with the purpose to give general recommendations for the policies for attracting Foreign Direct Investments in the technological– industrial zones. We would like to mention that the Industrial-Green zones that (should) operate in accordance with the Law on Industrial–Green Zones[1] are not covered by this research, as well as the regional effect of attracting FDI. Namely, in the region, the governments base the attracting of FDI mostly on tight measures which include price criteria for attracting FDI (fiscal, workforce price, direct aid for lower capital costs etc.).

By using established methodologies, the analysis indicated that:

1. Macedonia is not harmonized with the European Regulation on the State Aid transparency, i.e. the amount of the allotted State Aid is not known, neither a Registry nor a map for Regional Aid has been prescribed; while the findings of the State Audit Office indicate the non-fulfilment of the legal obligation for a timely report on the State Aid to the Directorate, the Agency, and the untimely information for the investors. Moreover, indications pointed to the lack of criteria for election and conclusion of an Agreement with the Foreign Direct Investors, incomplete planning of the budget of the Republic of Macedonia, and also, a lack of monitoring and evaluation of the achieved results from the previous State Aid.
2. According to the analysis, the amount of the investments in the zones, as a share in the overall Foreign Direct Investments participates with 20% to 30% annually, except in 2009 when they reached 51%.
3. According to this analysis, the amount of the export of the companies in the zones participated with 1% in the overall export from 2007 to 2009, while, afterwards, it grows in continuity, reaching 27% in 2014. From 2010 on, the participation of the export of the company Johnson Matthey is considerable, being the largest one among the overall export from all the remaining companies in the zones, with a share in the total export from the zones between 78% and 87% (in 2011 and 2014, respectively). This indicates a concentration of one company that is

[1] Official Gazette of the Republic of Macedonia no. 119/2013 and 160/2014

significantly bigger in terms of incomes compared to the remaining companies and the influence it could have on the overall indicators of investments in the zones.

4. The share of the companies in the total Gross Value Added on a national level reaches less than 1% in 2013. The Gross Value Added, as a component of GDP, which measures the contribution of every manufacturer, is visible after 2011, since the first investors started generating profits, and it increases with time. Johnson Matthey has the biggest share in the Gross Value Added in 2013 being the most significant one in terms of the amount of income and profit in the given year.
5. According to the given methodology in this analysis, the net economic benefits for the country, from the companies that have been operating in the period from 2007 to 2014, are positive for three out of seven companies, in the amount of 176.6[2] million EUR.
6. In the period which is covered with this research, and under conditions of a lack of prepared data regarding the State Aid, and the prescribed assumptions in this analysis, the tax exemptions and the allotted grants, as costs for the seven companies in TIDZ from 2007 to 2014, amount to 56.58 million EUR in absolute value.
7. Deduced as a percentage from the investment of the private entity i.e. the beneficiary, the investment share of the country evaluated by this analysis varies from 5% to 47% in regard to the company. In conditions of a lack of complete data on the State Aid and with given assumptions, the analysis showed that in absolute amount, so far, the biggest amount of costs of the country, calculated in the amount of 21.76 million EUR has been appointed to Johnson Matthey, which, in turn, represents 7% of the investment of the beneficiary, and the biggest costs in the amount of 47%, compared to the amount of the investment of the beneficiary, has been calculated for Johnson Controls Shtip in the amount of 10.37 million EUR.
8. The total average cost prescribed by the subsidizing and tax exemptions per employment generated in the period, amounts to 21.454 EUR (with a discount factor of 8%). In the given period, 3.008 new employments have been generated at every beneficiary, and the value per employment varies from the lowest 7.534 EUR in Johnson Controls Shtip, having the biggest number of employees in absolute value, up to a maximum of 46.674 EUR per employment at Johnson Matthey.
9. The financial analysis of the overall investments indicates that the set of incentives from the Government had a net positive effect on the results of the investments of the legal entities that operate in the zones. The Government's investment is crucial for attaining value of a positive return of investment for the legal entity in the zone for an assumed period of ten years, i.e. without the Government's investment, the investors wouldn't have a beneficial return on investment according to NPV, with the exception of Johnson Matthey. This raises the question of adequacy of the strategy for attracting foreign investments regarding the long-term sustainability of the investments in order to avoid the investors leaving after the termination of

[2] Visteon and Johnson Matthey as first established companies with net benefits of 60.5 and 11.7 million EUR, also Van Hool appropriately with 4.3 million EUR. The remaining companies still have negative net economic benefits for the country, which are expected to become positive in the successive period;

the tenth year, which would impose an abrupt capital drain, firing of employees, and a need for seeking other investors in TIDZ.

10. The assets of the companies-beneficiaries in TIDZ, are predominantly financed through liabilities (from related entities - parent companies), and on a smaller scale, through increased capital. The liabilities of the companies are initiating increased interest expenses, and reflected in decreased net profit, decreased earnings distribution and potentially lower profit tax for a distributed earnings.
11. The average net wages of the employees in the companies are approximately on the same level as the national ones, but Visteon and Matthey record a continuous payment of net wages above the national average, which is not the case with the other companies, i.e. Johnson Controls in Shtip, Vitek and Kemet, which have annual net wages payment below the average. The continuous promotion of a cheap workforce, at the same time, promotion of attracting developed technologies policy, is not reflected in the price of the workforce. If the wages are a reflection of employments for which no highly qualified workforce is needed and which would develop new technologies with a larger value added, then, it appears that the main employments are characterized by a manual workforce with which the effect of transfer and spillover of knowledge in other companies in the sector – one of the main factors for attracting FDI, is not achieved.
12. The potential benefit for positive externalities, such as the transfer of knowledge, faces a challenge, taking into consideration that the sectors that are generators of new experience, as well as transfer or spillover of know-how: research and development, marketing, sales, are accumulated in the parent-companies or in the regional centres, which limits the factor spillover of knowledge as an argument for attracting FDI in the Republic of Macedonia.
13. In the period 2007-2014, the opportunity cost for the Republic of Macedonia, based on the tax exemptions, as assessed by this analysis, is 18 million EUR in taxes forgone. By a projection of the results up to 10 years and discounting of the value of the lost taxes, in the period of 10 years, their net present value has been estimated at 36.6 million EUR or 7% of the value of the amount of the foreign investments.
14. Indirect benefits, which cannot be quantified in the form of externalities, such as the possible transfer of knowledge, new qualifications and positive impact on other companies including the domestic ones; new business sectors which can attract other companies with their experience. As well, new technologies in the production and corporate governing; agglomeration of businesses and clusters in the industry; integration of local companies that have benefits through increase in the exchange, as well as their capacities, etc. are expected, but it is necessary to mention that there are faced with challenges in the implementation of these concepts. .
15. The main recommendation is the strategy for attracting FDI, which is to be advanced in terms of preserving the existing investments through creating a second generation of structural reforms that will not be based on fiscal exemptions and grants, but on permanent and sustainable working conditions mostly focused on the stabilization of the political ambient, creation of a predictable business climate and reducing the corruption perception.

Content

1. Introduction

The Free Economic Zones[3] as forms of attracting investments and improving the economic development, are an old concept. The first Special Economic Zone was established in Ireland, in 1958 (Guangwen, 2003); these zones received a significant popularity in the 1990s when it is estimated that there were around 500 FEZ, whose number worldwide, after more than a decade, is considered to be between three and five thousand, while the biggest part of them is located in the developing countries (Carter and Harding, 2011: 8).

In Macedonia, the concept of socially economic zones is relatively new, which flourished with the Law on Free Economic Zones (FEZ)[4], i.e. with the concept of Technological–Industrial Development Zones (TIDZ) from 2007 when the Law on FEZ was superseded by the new Law on TIDZ[5].

The FEZs are defined as "*Demarcated geographic areas contained within a country's national boundaries where the rules of business are different from those that prevail in the national territory. These differential rules principally deal with investment conditions, international trade and customs, taxation, and the regulatory environment; whereby the zone is given a business environment that is intended to be more liberal from a policy perspective and more effective from an administrative perspective than that of the national territory.*[6] (Farole 2011, p.23).

TIDZ[7] in Macedonia are being promoted as one of the forms of attracting Foreign Direct Investments (FDI) and, pursuant to the law, aim at: "*acceleration of the economic development by attracting foreign and domestic capital for the development of new technologies and their application in the national economy, increasing the competitiveness and employment.*[8]" Therefore, the companies that are located in TIDZ enjoy significant benefits for achieving their goal, more precisely, by tax and nontax exemptions, i.e. measures for stimulating the investors. These subsidies and exemptions are based on the Law on TIDZ, and additionally, based on the right to State Aid as an additional incentive for the investors in accordance with the Law on State Aid Inspection[9].

---

[3] The term "free economic zone" and the term "industrial zone" will be used interchangeably for the purposes of this research, and will refer to those zones which are prescribed by the Law on TIDZ. In the international practice, the same term can be found as free trade zones, specific economic zones, zones for export promotion etc.

[4] Official Gazette of the Republic of Macedonia no. 56/99, 41/00, 06/02

[5] Official Gazette of the Republic of Macedonia no. 14/07, 103/08, 130.08, 139/09, 155/10, 127/12, 41/14, 160/14, 72/15, 129/15, 173/15, 192/15)

[6] Free translation from English: *Demarcated geographic areas contained within a country's national boundaries where the rules of business are different from those that prevail in the national territory. These differential rules principally deal with investment conditions, international trade and customs, taxation, and the regulatory environment; whereby the zone is given a business environment that is intended to be more liberal from a policy perspective and more effective from an administrative perspective than that of the national territory. Source:* https://openknowledge.worldbank.org/bitstream/handle/10986/2341/638440PUB0Exto00Box0361527B0PUBLIC0.pdf

[7] Ibid.

[8] Law on Technological Industrial Zones (Official Gazette of the Republic of Macedonia 14/07, 103/08, 130.08, 139/09, 155/10, 127/12, 41/14, 160/14, 72/15, 129/15, 173/15, 192/15), Article 2

[9] Law on State Aid Inspection, Official Gazette of the Republic of Macedonia no. 145/2010

According to the information of the Directorate of Technological Industrial Development Zones (DTIDZ), at the moment of researching, six new TIDZ have been established in the Republic of Macedonia, and five additional zones are planned. Out of all of them, in three zones, there are seven companies which are operational and which have submitted a Balance Sheet for 2014; on the rest of the locations, there aren't any operational companies, but there are announcements or plans, according to publications of the Commission for Protection of Competition[10] and statements in the media.

The Industrial-Green Zones that (should) operate pursuant to the Law on Industrial–Green Zones[11] are not covered by this analysis. Also, the regional effect of the attracting of FDI is not covered in this research. Namely, in the region, the governments base the attracting of FDI on tight measures which include price criteria for attracting (fiscal, workforce price, direct aid for lower capital costs and such). It seems as the Governments of those countries like Serbia and Macedonia to be competing which country will pay the investors more in order for them to come to the country[12][13][14]. Certainly, the price for the political and economic instability and non-transparency is compensated by a direct outflow from the budgets of those countries, by relatively low prices intended for the workforce, and by tax exemptions.

In those TIDZs which, at the moment of preparing this research, are operational and where the beneficiaries have submitted balance sheets for 2014, total of seven (7) companies operate, out of which five (5) in TIDZ 1 Skopje (Visteon Electronics Macedonia LLC[15], which was Johnson Controls Macedonia until 2014; Johnson Matthey LLC, Kemet Electronics Macedonia LLC, PRODIS LLC, Vitek Macedonia LLC), 1 company in TIDZ 2 Skopje (Van Hool Macedonia LLC),

---

[10] During 2015, decisions of the Commission for Protection of Competition on the State Aid for the investors in TIDZ were published for other six companies, particularly, for one of them on 3/2/2015 for a beneficiary in TIDZ Kichevo, for three of them on 21/4/2015 for a beneficiary in TIDZ Skopje, TIDZ Prilep and TIDZ Shtip, and for two on 9/9/2015 for a beneficiary in TIDZ Shtip and TIDZ Struga. Because there are no data for them and they are not operational, they won't be taken into consideration in the analysis http://www.kzk.gov.mk/mak/zapis_decision.asp?id=11 (Retrieved on 20/12/2015)

[11] Official Gazette of the Republic of Macedonia no. 119/2013 and 160/2014, the Government of the Republic of Macedonia has already established inter-resource working group, coordinated by the Ministry of Economy (ME), whose task is to implement the adopted Action Plan on forming industrial – green zones, and amendments to the Law on Industrial – Green Zones are in progress

[12] Read, for example, an article from Radio Slobodna Srbija:
http://www.rts.rs/page/stories/sr/story/13/Ekonomija/1896824/+Vu%C4%8Di%C4%87%3A+Investitori+mogu+da+ra%C4%8Dunaju+na+podr%C5%A1ku+dr%C5%BEave.html

[13] Or Srpski Kurir: http://www.kurir.rs/vesti/biznis/investicije-srbijo-11-kompanija-ti-pobeglo-u-makedoniju-clanak-1988399

[14] Or B92: http://www.b92.net/biz/vesti/srbija.php?yyyy=2015&mm=10&dd=21&nav_id=1053907

[15] On July 1, 2014, Visteon Corporation (NYSE: VC) published that the acquisition of the business (segment) of Johnson Controls' automobile electronics (NYSE: JCI) is finished, creating one of the world's three largest suppliers of vehicle cockpit electronics http://www.prnewswire.com/news-releases/visteon-completes-acquisition-of-electronics-business-of-johnson-controls-265370241.html (retrieved on 24/11/2105);
http://www.johnsoncontrols.com/content/us/en/contact/automotive_experience/electronics.html
Therefore, Johnson Controls Macedonia became a part of Visteon, as Visteon Electronics Macedonia.

and 1 company in TIDZ Shtip (Johnson Controls Shtip LLC). **Therefore, these seven companies will be a subject of research.**

The purpose of this research **is to quantify the direct economic costs and benefits, and to express the net benefits from the new employments, as well as to calculate the value added from these investments, with the purpose of giving general recommendations for the policies for attracting Foreign Direct Investments in the technological – industrial zones.**

Here, we would like to stress out that our research does not go into the moral and ethical aspects of the State Aid and the relations of the capital and of the workforce. Also, we do not go into researching whether FDI invariably facilitate the economic growth (Menzinger 2003: "the benefits from the FDI were more of an allegation rather than an empirical affirmation"). Particularly the latter because the economic growth does not mean a more quality life and/or does not mean a sustainable growth, regarding which, there are empirical indicators for Macedonia also taken into account by the CEA[16]. In this research, we cover the microeconomic aspects of the regulation, (non)transparency, value added, and employment.

From the beginning, it is important to mention that the Government is nontransparent in the segment of attracting FDI and until the moment of the research, the information on the specific amount of the state participation in the form of distributed aid is not publicly available, therefore, assumptions, which will be elaborated, will be used for part of the information, as a limiting factor.

Also, we would like to allude to the lack of criteria for selection and agreement conclusion with FDI, incomplete planning of the capital in the budget of the Republic of Macedonia[17] and also, a lack of monitoring and evaluation of the achieved effects from the past State Aid invested for the purpose of attracting FDI, also determined by the State Audit Office. Apart from this, there are verified irregularities which this Office has detected in the Agency for Foreign Investments and Export Promotion in 2014[18].

Finally, this research is organized in several sections – the first section provides a preview of the Foreign Direct Investments, regulation, and incentives, the second one provides a preview of the methodology and its use for quantification of the benefits and the costs and the third section provides a preview of the additional benefits and recommendations for the advancement of policies.

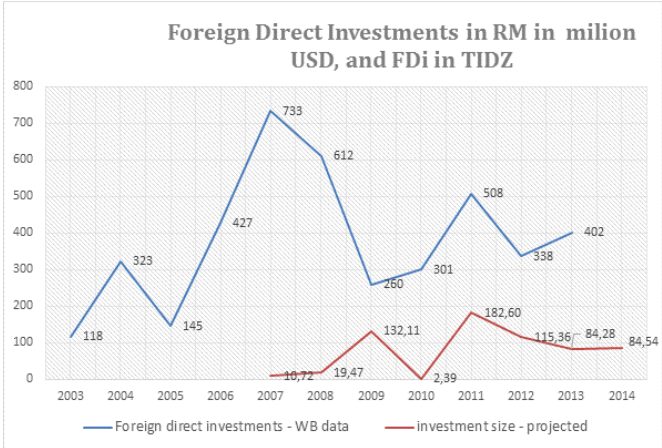
[16] More in Nikolov, Trenovski, Risteski, Ristovska (2013): "Political consensus for the economic future of the Republic of Macedonia ", CEA: http://cea.org.mk/documents/Politicki_konsenzus.pdf. Also, more in Menzinger J. (2003): " Does Foreign Direct Investment always enhance economic growth?", KYKLOS, Vol. 56 – 2003 – Fasc. 4, 491–508

[17] More in the Final Report of the Certified State Auditor on: http://dzr.mk/Uploads/2008_Agencija_stranski_investicii.pdf.

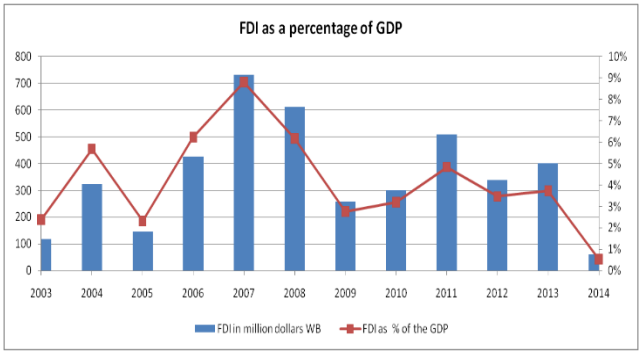
[18] More in the Final Report of the Certified State Auditor: http://dzr.mk/Uploads/13_Agencija_stranski_investicii_izvoz_FOLOWUP_KOMPLET.pdf.

2. Foreign Direct Investments in Macedonia and regulation

2.1. Total Foreign Direct Investments



Source: Data based on the World bank data and authors' projection



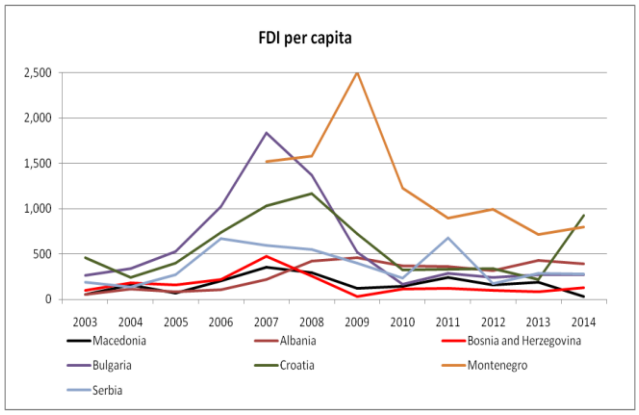
Source: Data based on the World Bank database

The data on the total net Foreign Direct Investments[19], indicate that, in the period from 2003 to 2014, in the Republic of Macedonia, the Foreign Direct Investments (FDI) record a general growth trend. According to the dynamics of the investments displaced below, the level of investments in 2003 can be noticed, while the biggest level is achieved in 2007, i.e. around 733 million dollars. Compared to the implemented investments (see the methodology below) the participation of FDI from TIDZ is important and they participate with twenty percent on average. Namely, in 2008, the participation of the foreign investments from the technological industrial zones was 3%, while in 2009, it was 51%, and in the rest of the years, it was between twenty and thirty percent.

Observed as a percentage of GDP, in 2007, when the balance of the account of the FDI is the highest, the participation of the Gross Domestic Product is 9% which, in the years, continues to decline, up until its mild increase in 2011 to 5% from GDP, while in 2014, it reaches 1%.

Compared to the neighbouring countries, Macedonia and Bosnia and Herzegovina have a similar dynamics and value of FDI per capita (USD) and they record the lowest, but constant level of investments per capita in relation to the other neighbouring countries. According to the data from

Source: Data from the World Bank database

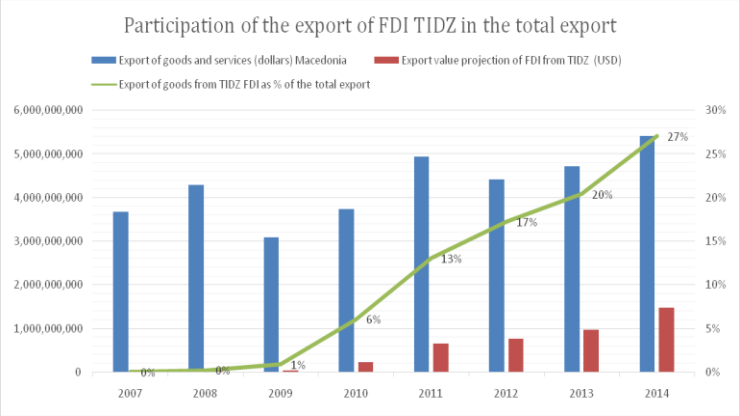


Source: Data based on the World Bank database

[19] The investments of the beneficiaries of the technological industrial zones are included in the Foreign Direct Investments

the World Bank database[20], Montenegro and Bulgaria record a fluctuating FDI flow, i.e. higher oscillations in the value per capita, with a fall of investments in the last 4 years. Only Croatia records a significant growth of FDI in 2014 compared to the previous year, which is not the case with the rest of the countries that are our subject of interest.

The participation of the export of FDI from TIDZ in the overall value of the export from Macedonia is significant and increases in continuity. Namely, the percentage of the export from the companies in TIDZ (according to a derived export value, see methodology below) from 2007 to 2009 is 1%, then, it increases continuously and in 2014, it reaches 27%. From 2010, the participation of the export of the company Johnson Matthey is significant and it is the biggest out of the total export from all of the companies in TIDZ, and it amounts to between 78% and 87% (in 2011 and 2014, respectively). This indicates the influence of one company that is significantly bigger in terms of incomes, in comparison with the rest of the companies, and the influence it could have in the overall indicators of investments in the zones.



Source: State Statistical Office and financial reports of the companies from CRM, calculations of the authors

<u>The share of the companies in the total Gross Value Added on a national level reaches an insufficient 1% in 2013.</u> The Gross Value Added, as a component of GDP, measures the contribution of every manufacturer, sector or industry and gives a preview of the contribution of the companies in TIDZ in the overall economy. From the figure, it could be established that the contribution through the value added of the companies[21] may be visible after 2011, i.e. after the first investors started generating profit, and it increases in time.

Source: State Statistical office, Annual financial accounts of the companies to the CRM and authors' calculations

The biggest share that contributes to the Gross Value Added with the biggest participation in 2013 is Johnson Matthey, as the most significant in terms of income and profit in the given year. Since the

[20] http://data.worldbank.org/

[21] Calculated as a set of the operational profit, employment costs and amortization

companies, which are established and/or started working in 2011, in the first year, generated net operating loss, their positive influence can be expected to be noticed even after 2014. Regarding the overall Value Added of the foreign-controlled companies, as part of the overall Value Added for Macedonia, there is no available statistical data[22].

2.2. Regulation for exemptions and State Aid for FDI in TIDZ

The Republic of Macedonia has been a candidate country for EU accession since December 2005, and the Commission gave a recommendation to the Council, for the first time, for initiating the accession negotiations in 2009. As a candidate country for EU accession, it is necessary for the country to harmonize its regulation with that of the EU, including the regulations that refer to the State Aid i.e. its control. In relation to the foreign investments through the beneficiaries in TIDZ, except for the tax exemptions, they also receive a direct aid i.e. State Aid.
According to the European Commission[23]: *The State Aid is defined as advantage in any form, given to the enterprises on a selective basis, by the national public authorities. Therefore, the subsidies given to individuals or the general measures that are open to all of the enterprises, are not enclosed in this prohibition and do not represent State Aid (for example, general tax measures or employment legislation).*

For a certain measure to be considered a State Aid, it should possess these characteristics:

- There should be an intervention by the state or through state resources, which can take different forms (for example, grants, tax or interest exemptions, warranties, governmental investments as part of a company, or provision of goods and services under preferential conditions, etc);
- The intervention is to provide the receiver with an advantage on a selective basis, for example, for certain companies or industrial sectors, or companies located in certain regions
- The competitiveness is, or may be, violated;
- The intervention can influence the trade between the member countries[24].

The last European Commission Country Progress Report (for 2015) indicates that there are inadequacies in the area of the state influence on the competitiveness: "*while the legal framework of the State Aid was strengthened in the last years, the information on the amounts and beneficiaries of State Aid, as well as on the successive assessment, is limited.*" Additionally, in the chapter on the policy of competitiveness, it is mentioned that"…*The registration systems for using State Aid are not used by all of the State Aid providers, with which an effective monitoring is being obstructed. ….The State Aid Registrar hasn't been established yet, and an appropriate map of regional aid in accordance with EU Guidelines on Regional State Aid hasn't been prepared.*"[25]

---

[22] See more details in the table in the annex
[23] http://ec.europa.eu/competition/state_aid/overview/index_en.html
[24] More in the annex
[25] Document of the Commission Services, Report on the Republic of Macedonia 2015, http://www.sobranie.mk/content/%D0%9D%D0%A1%D0%95%D0%98/PR2015_All_CK_FF_MK_16.11.2015.pdf (retrieved on 20/12/2015)

Having in mind the above said, and with the purpose of increasing the transparency, its advancement is necessary through creating and regularly updating a State Aid Registrar, as well as creating a map of State Aid on a national and/or regional level, with which the transparency would be improved, and we will approach toward harmonization with the EU regulation. Additionally, in accordance with the recommendations by the SAO, it is necessary to upgrade the criteria for State Aid distribution.

From the aspect of a System for attracting FDI in the Republic of Macedonia, the main policies and measures for attracting FDI in Macedonia, which are promoted through the Agency for Foreign Investments and Export Promotion of the Republic of Macedonia (AFIEPRM), are the following[26]:

- Flat tax rate of 10% for personal income tax and income tax
- Tax deductions – no profit tax for reinvested net profit before taxation
- Low costs for competitive workforce
- For the investments in TIDZ[27] , schemes for State Aid are additionally offered, in the form of a Regional State Aid: Exemption from paying personal and corporative income tax in the first 10 years; VAT exemption and exemption from customs procedures for goods, raw materials, equipment and machines, up to 500 thousand EUR as a subsidy for investment costs, given the value of the investment and the number of employees, land lease in the period up to 99 years; free connection to natural gas supply, water, electricity; Exemption from paying public duties to the local municipality and payments for construction permits, as well as green custom channels for goods.

We would like to stress out that the Industrial-Green zones that (should) operate pursuant to the Law on Industrial-Green Zones[28] are not covered in this analysis. The Government of the Republic of Macedonia has established an inter-resource working group, coordinated by the Ministry of Economy (ME), whose task is to implement the adopted Action Plan on forming Industrial-Green Zones, and the amendments to the Law on Industrial-Green Zones are ongoing.

Here, once again, we would like to remind that the Government is non-transparent when it comes to the FDI and that, up to the moment of the research, the information on the specific amount of the participation of the state in the form of a distributed aid is not publicly available, therefore, assumptions, which will be elaborated, will be used for some of the information, which is a limiting factor. In the process of conducting the research, except for the direct communication with those who are responsible for information on the amount and type of State Aid per company and per year, the information has been asked by a Request for Access to Public Information[29]. A response has been received[30] stating that the

[26] http://www.investinmacedonia.com/
[27] http://www.investinmacedonia.com/investing-in-macedonia/technological-industrial-development-zones-tidzs
[28] „Official Gazette of the Republic of Macedonia" No. 119/2013 and 160/2014
[29] RAPI has been submitted to DTIDZ and AFIEPRM 22/12/2015
[30] Reply received on 26/01/2016

value of the state aid provided is of confidential character with an economic and market value for the companies.

Also, we would like to point to the lack of selection criteria and criteria for concluding agreements with FDI, incomplete planning of the finances in the budget of the Republic of Macedonia[31] but also lack of monitoring and evaluation of the achieved effects from the State Aid which has been invested in the attracting of FDI; something that has also been determined by the State Audit Office (SAO), apart from the irregularities that the SAO has determined in the Agency for Foreign Investments and Export Promotion in 2014 in the respective Report of the Certified State Auditor[32].

3. Incentives for Foreign Direct Investments in the technological industrial zones

According to the Law on Technological Industrial Development Zones[33] and the Law on State Aid Inspection[34] there are more types of tax exemptions and additional incentives for the foreign companies, beneficiaries of TIDZ.

Macedonia, as mentioned before, offers benefits, in the form of exemptions and State Aid through the Law on TIDZ and the Law on State Aid Inspection, to those FDI which are beneficiaries of TIDZ. The exemptions and incentives which the Government offers for the companies in TIDZ appear in the following forms:

1. *Tax exemptions from profit tax:* The beneficiary of the zone is exempt from paying profit tax in the period of ten years[35.] The profit tax rate in the Republic of Macedonia is 10%. The tax rate is applicable in case of an allocation of the profit in the form of dividend.
2. *Tax exemptions from personal income tax:* The beneficiary of the zone is exempt from paying personal income tax on the basis of wages of the employees in the period of 10 years, regardless of the number of employees[36]. The personal income tax rate is 10%, which, even though being a liability of the employee, is paid by the employer.
3. *Subsidizing for rental of land:* The beneficiaries of TIDZ pay significantly low rent given the area of the parcels. According to the tariff of the zones, they are very low and amount to 3.1 MKD/m2. The difference between the market value which the beneficiaries would pay and the value they actually pay is regarded as a subsidy or an additional deduction.
4. *Grant for construction:* the amount of aid for construction in TIDZ is limited to 0.5 million EUR, and the companies - beneficiaries of the zones use this aid in the form of a grant.

---

[31] More in the Final Report of the Certified State Auditor: http://dzr.mk/Uploads/2008_Agencija_stranski_investicii.pdf.
[32] More in the Final Report of the Certified State Auditor:: http://dzr.mk/Uploads/13_Agencija_stranski_investicii_izvoz_FOLOWUP_KOMPLET.pdf.
[33] Law on TIDZ (Official Gazette 14/07, 103/08, 130.08, 139/09, 155/10, 127/12, 41/14, 160/14, 72/15, 129/15, 173/15, 192/15)
[34] Official Gazette of the Republic of Macedonia 145/2010
[35] http://www.ujp.gov.mk/m/megjunarodni_organizacii/category/1027
[36] Ibid.

5. *Exemptions from a compensation for organizing the construction land (communal taxes):* exemption from a compensation, which is a local compensation, determined by the municipality on which territory TIDZ are located, i.e. in this case, the municipality of Ilinden (for TIDZ Skopje 1 and TIDZ Skopje 2) and municipality of Shtip (TIDZ Shtip)[37].
6. *Aid for Training of Employees:* The beneficiaries of TIDZ can receive aid in the form of a grant for training of the employees in the amount of 50% of the respective training costs.
7. *Exemption from paying Value Added Tax (VAT)* – the beneficiary of the zone is exempt from paying VAT for goods and services in TIDZ (except the profit intended for the final consumption) and export of goods in TIDZ (provided that the goods are not intended for the final consumption)[38]
8. *Subsidizing 50% of the gross wage of the employees in the period of 2 years:* this aid is an alternative for the 50% out of the justified investment costs (for investments up to 50 million EUR) which are evaluated either as justified costs for the investment or as costs for the wage of the employees in the period of two years[39]

4. Preview of existing research

When it comes to FDI in TIDZ in Macedonia, the limited access to exact information results with a lack of available research, which, in turn, make a quantification of the economic cost and the return of investment, i.e. of the benefits of the State Aid in the companies in TIDZ.

Unlike other countries, but, also the latest regulations of the EC of EU that refer to all members, regarding the transparency of the State Aid, in Macedonia, the transparency of the amount of the State Aid is almost nonexistent, i.e. neither DTIDZ nor the Commission for Protection of Competition (CPC)[40] (also competent for State Aid inspection) publish the amount of the distributed State Aid. Namely, in the available reports of the CPC, the section where the amount of the distributed State Aid should be is covered.

According to the latest amendments to the EU Regulation on the transparency of the distributed State Aid, all Member States are required to publish on a comprehensive State aid website, at national or regional level, the following information: (1) short information on the aid measure; (2) a full text for the measure aid or a link next to it; (3) information on every individual aid exceeding 200 thousand EUR which contains: name of the beneficiary, type of beneficiary (SME/big

[37] Although, at the moment, there are more TIDZs in the Republic of Macedonia, only TIDZ 1 and TIDZ 2 in Skopje and TIDZ Shtip in Shtip are analyzed in this research, because, at the end of 2014, the beneficiaries who submitted annual financial reports exist only for these three TIDZ.
[38] Ibid.
[39] http://www.vest.mk/?ItemID=1B6CBF4D0FCF0E4C9BB69A4126586C4B
[40] Law on State Aid Inspection, Official Gazette of the Republic of Macedonia, no. 145 from 05.11.2010 Article 29 Publishing of Decisions and Data 30 Trade Secret (Article 29, Indent 5: The data which are a trade secret, in the sense of Article 30 of this Law, are not published), Law on Protection of Competition 145/10, 136/11, 41/14, Article 57 Trade secret

enterprise), region, economic sector, aid element, aid instrument and date of grant[41]. The same has been determined by the EC State Aid Guidelines for 2014-2012, in the section on transparency.[42]" Some countries, such as The Netherlands, already have an interactive and complete web site, where this information have been displayed for quite some time[43].

The research regarding the employed methodologies for evaluation of the benefits by the foreign investments refer to the need of an enormous database of exact information that is necessary for a detailed analysis. According to Stekler, Stevens (1991), the typical calculations for the contributions of the direct investments are concentrated on the national income of the country, whereas the distribution of the income is a rarely examined issue. At the implementation of the cost-benefit analysis, the quantification of the benefits and costs depends on how perfect the market of inputs and products is, i.e. whether the marginal costs are reflected, otherwise, it is necessary to use adjusted or "shadow" prices, in order to determine the marginal cost[44].

5. Key question

The key question of this research is what is the value added of FDI in TIDZ and what is the cost for the public finances compared to the benefits of the investments in the past period.

6. Approach and methodology

6.1. Approach and methodology

The approach for conducting this research is based on the following steps in data collection, information and their analysis:

1. *Preview of existing analyses,* secondary data, valid regulation that refers to the foreign investments in TIDZ;
2. *Data collection* on the basis of the available financial reports of the companies in TIDZ which are available through CRM, as well data published on the web sites of DTIDZ, AFIEPRM.
3. *Direct communication* with the beneficiaries and, even though, some of them were contacted by phone and e-mail, we didn't receive data, as well as with DTIDZ and AFIEPRM regarding the amount of the State Aid, for the purpose of which, a Request for Access to Public Information has been submitted[45].

---

[41] http://europa.eu/rapid/press-release_MEMO-13-1175_en.htm
[42] http://www.renascc.eu/documente/rag%20new%20en%202013_743en.pdf, retrieved on 25/12/2015
[43] http://ec.europa.eu/competition/state_aid/modernisation/index_en.html, http://www.europaomdehoek.nl/ The Netherlands, retrieved on 14/12/2015, countries of EFTA http://www.eftasurv.int/ (retrieved on 31/12/2015)
[44] The adequacy of the US Direct Investment Data, Stekler, Stevens, International Economic Transactions, Issues in Measurement and Empirical Research, National Bureau of Economic Research, 1991
[45] Reply on the request based on the freedom of information act was received by the AFIPERM, not stating the value of the state aid with an explanation that the value is confidential and with economic and market value to the companies, and as a result of their request they do not disclose them

4. *Analysis* based on the determined methodology

6.2. Scope, limitations

This research provides simplified methodology through which the net benefits of the investments can be evaluated from their establishment until the end of 2014 and a set of general recommendations can be given for the improvement of the policies for supporting the FDI in TIDZ in the Republic of Macedonia. The calculations of the net economic benefits, as well as the marginal benefit from the new employments, are based on the data from the financial reports of the companies that are located in TIDZ (CRM final financial reports), while on the other hand, the data which refer to the State Aid and the exemptions have been collected on the basis of assumptions, and partially, on statements and data from the DTIDZ.

The limitations of this analysis are from the following aspects:

- It is extremely difficult to conduct a detailed comprehensive cost-benefit analysis of investments that are placed in TIDZ because of the need of a great number of detailed data and information necessary for its conduction, and it is impossible to collect the information and data within the given period, because of the accessibility and the resources, temporal and material. A great number of data which would be necessary for a detailed analysis are the data which the companies themselves treat as confidential.
- The limited access to information on the amount of the State Aid and on the exemptions per company in the period which is under the scope our research makes the complete rigorous cost-benefit analysis impossible, but that's not even the purpose of this research. At the same time, because of the limited temporal scope, certain companies can be assessed only in the period from their establishment which, for some of them, is relatively short, making this an additional limitation.
- The indirect, as well as delayed benefits also have a significant impact on the realization of the aims of attracting FDI but, their quantification and measuring is also limited; however, we have tried to identify some of them with this research.

With the purpose of taking into consideration the limitations as a result of the short operational period, except the period of examination, sub-simulations have been made for some of the companies, on what would the benefits and profitability of investments be like in the period up to ten years of existence, with a projected growth of the company according to the past data. Additionally, the findings are normalized by years, so that the investments are eventuated in the same period, with which the Net Present Value (NPV) of the investments and the internal return of the investment rate by discounting with an adequate discount rate are calculated. It should be mentioned that, under conditions when the plans of the development of the companies are unknown to us, the projections are based on the growth trend and the possible growth trend, having in mind the period of existence and the generally determined growth rate.

6.3. Benefits - Methodology, assumptions and analysis

The methodology that is used to determine the benefits and costs of the investments in TIDZ is based on a simplified analytic tool for measuring the net economic benefit of every investment, as well as determining the costs of the investment for the country, in the zones, in the period from 2007 to 2014, through the costs and benefits (cost-benefit analysis), with an accent on the benefits from the new employments in the companies in TIDZ.

The used methodology is based on a simplified methodology that mostly concentrates on the examinations and the approach of Bremer and Bell (1993) in the publication of the Center for Development Information and Evaluation (CDIE) of the U.S. Agency for International Development[46]. The measuring of costs and benefits from projects that promote export, by measuring the benefits and costs expressed through the employments, are favourable because one of the main motifs for the support of the foreign investments through the companies in TIDZ, and a purpose prescribed by the Law on TIDZ, is the increase of employments.

The cost-benefit analysis compares the value of the cost flows related to a certain project with the value of the benefit flows from a given project in order to measure the contribution of a given project to the national economy. At the analysis of a given project, the financial benefits and costs, together with a set of economic prices (shadow prices) which reflect the opportunity cost, differ from the paid price and corrects the financial flows in their economic equivalents in order to take the costs and benefits, which are missing during the financial analysis, into consideration[47].

According to this methodology

Net economic benefits= (value added in the economic prices) – (opportunity cost of factors needed to generate value added)[48]

The net economic benefits for every company are presented as a collection of economic value added; in other words, the overall incomes from export, reduced by the opportunity costs as factors for generating value added and economic net benefits that refer to the overall benefits of the country. The opportunity costs that are taken into consideration in this research are:

1. *The foreign capital investment* – the amount of the investment on the basis of the financial reports is deduced as a sum of the change of the capital and the liabilities[49] for every year, by which we

[46] http://pdf.usaid.gov/pdf_docs/PNAAX277.PDF, Measuring Costs and Benefits of Export Promotion Projects, Findings From A.I.D. Experience, Jennifer Bremer, Charles Bell, 1993, Center for Development Information and Evaluation U.S. Agency for International Development

[47] ibid

[48] Net economic benefits = (Value-added in economic prices) – (opportunity cost of factors needed to generate value-added)

determine the amount of the investments for every beneficiary in TIDZ. Because the change/fluctuation of the liabilities during the whole year are not known (the balance sheet provides a snapshot only of the day of the balancing) and, during the year, there are changes in the balance positions for short-term and long-term loans, we add the taken loans and credits that are used for buying fixed assets and financing the working capital to the investments in fixed assets (change of the value of the fixed assets during the year plus the depreciation for the same year) as well as the need for financing of the working capital.

The financial reports of the companies indicate that the liabilities to related companies, for which there are interest costs, are high, as opposed to the financing with capital, which establishes the adequacy of this approach of deducing the amount of the investment (foreign investment). This goes for all of the companies in TIDZ which are a subject of analysis, except for one of the investments which continuously has positive results (net profit) and whose current assets are higher than the current assets and there is no need for financing the working capital through loans from related companies[50]. In addition, the needs for financing the growth of the company are met by increasing the capital through the reinvestment of the net profit.

2. *The net wages of the employees* – the amount of the net wages for the employees is a data that is available and visible from the annual financial reports of the companies, and in the analysis, an average is taken for it, because there is no structure of the employees for technological qualifications (hi/low). The net wage average is acceptable in a situation when we have a lack of audited financial reports for the companies, which would provide a preview of the structure of the employees according to the degree of technological qualifications.
3. *The import value* – the amount of the import is a deduced value as a result of the initial balance of the supplies, the overall value of the material expenses, reduced by the overall value of the supplies at the end of the year.

At the implementation of this static methodology of estimating the ***net benefits for every year*** adequately for each of the examined companies, and calculating the sum of the annual net benefits, it derives that the positive net benefits appear in the two companies (Visteon Electronics and Johnson Matthey), which are the first companies established in TIDZ and have the longest period of operating. The net benefits for those companies that started working during 2011 is still negative, except for one of them (Van Hool). It may be assumed that the determination of the net benefits in the initial years of operation is still premature and a limiting factor i.e. that the net benefits from FDI are generated in the following years from the operations. Still, the results of each of the companies, the sector and the size of the company also have a significant influence. The total net benefits according to this methodology at summarizing all of the results from 2007 to the end of 2014 for all the examined companies are 123,33 million EUR, out of which, the largest share is a result of Visteon and Matthey which contribute with 172,2 million EUR.

---

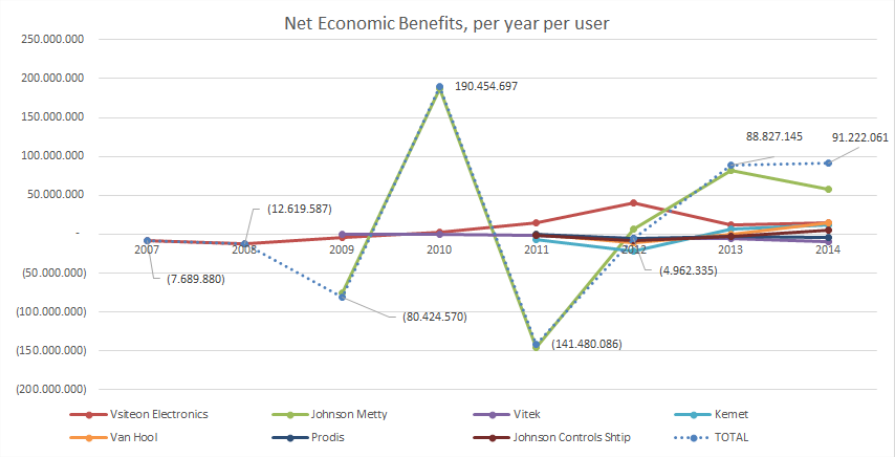
[49] According to NBRM: ….The data on the balance of the direct investments include data on the proprietary capital (by reinvesting the profit) and on the defaulting instruments.

[50] This refers to Johnson Matthey

Net economic benefits, expressed in million EUR

	Visteon Electronics	Johnson Matthey	Vitek	Kemet	Van Hool	Prodis	Johnson Controls Shtip
	Start* 2007	***Start 2009***	***Start 2009***	***Start 2011***	***Start 2011***	***Start 2011***	***Start 2011***
Value added in economic prices (overall export)	**349,70**	**2.594,18**	**5,14**	**21,1**	**78,22**	**1,13**	**27,08**
Opportunity costs for generating value added	**289,21**	**2.482,46**	**26,45**	**32,73**	**73,91**	**14,06**	**34,41**
Net economic benefits	**60,49**	**111,73**	**-21,31**	**-11,63**	**4,31**	**-12,93**	**-7,33**

*** first year when generating of incomes is recorded, till the end of 2014**



6.4. Costs – methodology, assumptions and cost analysis

The costs that the country generates through the tax and the non–tax exemptions taken into consideration are the tax and non-tax exemptions and subsidies for the companies in TIDZ provided by the companies:

1. *Tax exemption per profit tax:* 10% of the net profit for every year when there is a net profit, regarding which, the beneficiary of the zone is exempt from paying profit tax in a period of ten years.
2. *Tax exemption from personal income tax:* 10% of the net costs from wages in the period of ten years, and this percent per calculation of wages is around 10% of the net wage if the average

amounts of wages are taken into consideration in relation to the tax exemption and the calculation of the contributions.

3. *Subsidizing of parcel rent:* the difference between the assumed market value of the area[51], determined at 3 EUR/m^2 and the price in accordance with the zone tariff of 0,05 EUR/m^2. Therefore, the difference between the market value which the beneficiaries would pay and the value they actually they pay is regarded as a subsidy or an additional deduction.
4. *Grant for construction:* The amount of the Aid for construction in TIDZ is limited to 0.5 million EUR, and we assume that all of the companies have used this aid in the form of a grant in the maximal amount.
5. *Exemptions from a compensation for organizing the construction land (communal taxes):* exemption from compensation, which is a local tax/compensation and is determined by the municipality where TIDZ are located, i.e. in this case, the municipality of Ilinden (for TIDZ Skopje 1 and TIDZ Skopje 2) and municipality of Shtip (TIDZ Shtip). The communal taxes, till the moment of establishing the companies, were 20 EUR/m^2 (at the moments, they are reduced to 15 EUR/m^2) for a constructed area (multiplied by a coefficient of 0.05 for production facilities), and in Shtip, they are around 30 EUR/m^2, multiplied by a coefficient of 0.05 for production facilities).
6. *Aid for Training of employees:* assumed value of 5.000 EUR for every new employee. The TIDZ beneficiaries can receive aid in the form of a grant for training of employees in the amount of 50% of the similar training costs. Because there is no temporal limitation, we assume that every year, aid in the amount of 5.000 EUR is used per new employee.
7. *Exemptions from paying VAT*– The legal provisions stipulate VAT exemptions and we calculate VAT cost on building, with 18% VAT for the assumed cost value of building from 400 EUR/m^2. With the exemption from paying VAT for construction of production capacities, the country has an opportunity cost for receivable incomes from VAT from the companies that deal with the construction of the capacities.
8. *Employment* - 50% of the gross wage in the period of 2 years, if they are calculated or are justified investment costs. Because of assumptions which meet the first criterion, we will not consider this exemption as a cost, i.e. we will assume that it is 0 for all of the beneficiaries.

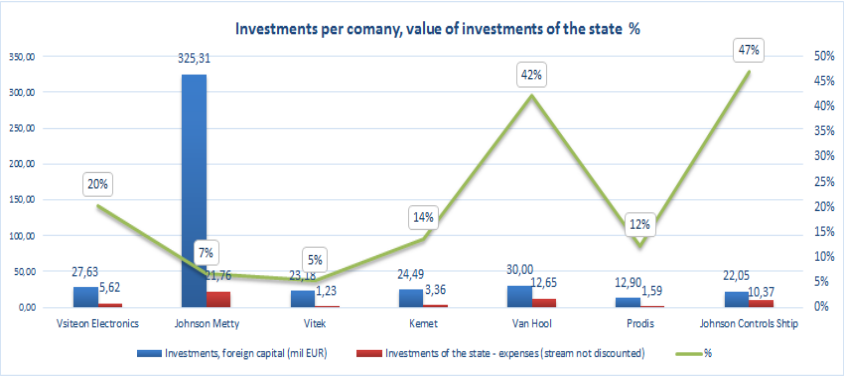
Hence, the assumed investment cost in the area of the investment we are examining, i.e. the assumed state investment for each of the companies can be found (see detailed in Table 1, Costs EUR, per company and total). The amount of the costs of the public means i.e. the state investment through the exemptions and subsidies, varies per company according to the period in which they operate in TIDZ, the amount of the incomes, results, construction, etc.

If all of the costs are summarized for the period which is examining, it could be determined that the cost arising from the exemptions and subsidies based on the given assumptions, for the seven

[51] The area of the parcel has been determined from several sources, these areas are used for those which can be found in DTIDZ, while the rest are based on statements of relevant media.

companies from 2007 to 2014, in absolute value, amounts to ***56.58 million EUR***, and if we discount the value in 2014, it amounts to 66.25 million EUR. The share of the investment of the country, derived as a percentage from the investment of the private entity, i.e. the beneficiary, varies from 5% to 47%, in regard to the company.

In an absolute amount, the highest value of the state costs so far, has been calculated for Johnson Matthey in the amount of 21.76 million EUR, which is, in turn, a smaller percentage of the investment of the beneficiary, i.e. 7%, while the biggest costs in the amount of 47% compared to the amount of the investment of the beneficiary, that is, 10.37 million EUR, has been calculated for Johnson Controls in Shtip.



Source: Authors calculations based on annual accounts of the companies

In order to correct the scale back of the net benefits, ***an attribution rate*** is determined, which represents the estimated probability that certain benefits would arise if there were no interventions in the project, i.e. in our case, what is the probability that the investments would occur if there are no exemptions and incentives to that extent that they are available.

This estimation is subjective and according to the estimations of the authors, this rate has been determined on 20% having in mind several factors: - if the amount of the assumed deductions and subsidies wouldn't exist, they would be generated by the companies as investment or costs which would be reflected in the financial reports, increasing the performance costs and reducing the profit, with worse key performance indicators (KPI)[52], and by that, their investment would be less profitable; - additionally, if the wages of the employees are not subsidized, we could assume that they would be market determined and would be higher, increasing the company cost, and this would be a de-stimulating factor for implementing investments in Macedonia. In addition to this explanation, the announced leaving of the first company beneficiary of TIDZ exactly ten years from the initiation of operations, i.e. after the expiry of the exemptions for Visteon Electronics (early, a part of Johnson Controls) is also indicative, as well as the statement of the Executive director of Van Hool that the main reason for investing in Macedonia are the state subsidies[53].

[52] KPI-Key performance indicators
[53] http://24vesti.mk/subvenciite-i-rabotnata-sila-ja-spasija-belgiskata-kompanija-%E2%80%9Evan-hol%E2%80%9D

In order to determine the marginal benefit from a new employment as a result of the investments, the following method can be used, which provides an analysis of the economic return from creating jobs. In situations when it is impossible to conduct a complete and detailed cost-benefit analysis, the measuring of the benefits from employment is a useful basis for calculating the net benefits from the generated employments, and we will use the following formula for the flow of benefits

$$B = J * W * (1 - LCR) * A \quad (1)$$

Where:

- Number of generated employments (J) – are the new employments during the year, i.e. the difference between the balance of employees at the end of last year and the current year based on the registered data in the annual financial reports for every company
- Average net wage (W) – average net wage in all of the years, subject to this analysis, in the given company on the basis of the data from the financial data for every company
- Average labour conversion rate [54] (LCR) "shadow[55] wage rate"[56], which is assumed to be 0.62 basis of other research, and represents a percentage reflecting the ratio of the economic opportunity cost of labor to the financial wage
- Attribution rate related to the new employments (A) (assumed value of 20% based on the estimation of the researchers).

With this formula, we calculate the benefits related to every new employment of the investment, as well as the marginal benefit which represents the difference between the financial and economic cost connected to the generating of a value added. That means a comparison on the level of investment, of the economic benefit with the costs, which are a result of the combination of exemptions that have been provided to the investor in the period of the analysis (since the establishment of the companies until the end of 2014).

Because the purpose of TIDZ is attracting high technological development investments, in this formula, we correct the value of the number of generated employments by a multiplication of 10. I.e. the benefit inflow, in accordance with formula (1), would be:

$$B = 10 * J * W * (1 - LCR) * A \quad (2)$$

Company	**Visteon Electronics**	**Johnson Matthey**	**Vitek**	**Kemet**	**Van Hool**	**Prodis**	**Johnson Controls**	**TOTAL**

[54] On the basis of a calculated shadow wage rate in Eastern Europe, http://fiorio.economia.unimi.it/res/Del%20Bo%20Fiorio%20Florio%20Article%202011_1_17.pdf

[55] Shadow wage rate – represents the social opportunity cost of the labour, i.e. what the individual has to give up to receive extra unit from the good

[56] Labor conversion factor is generally stated as a percentage reflecting the ratio of the economic opportunity cost of labor to the financial wage

							Shtip	
Number of generated new employments	**321**	**534**	**33**	**144**	**485**	**72**	**1.499**	**3.088**

If this approach is used for calculating the net benefits from the employments, it can be noticed that the difference of the net benefits per employment discounted by the costs, i.e. the marginal benefit of the employment in all of the companies except Visteon Electronics is negative, i.e. 33 million EUR are negative for all of the companies. This indicates that the marginal benefit is lower from the marginal employment cost, except for the first established company. Still, it should be considered that the results of the companies from the beginning of their operational functioning until the end of 2014 are analyzed, and that a bigger number of the companies have been operational in the period from 2011.

Knowing the amount of the calculated investment of the country per company and year, as well as the number of newly generated jobs, we can allocate the cost per unit of new employment in every company. (See Annex Table 2)

	TOTAL
Flow of benefits per employment 10 * J * W * (1 - LCR) * A For every year until 2014.	**23.496.822**
Costs (undiscounted flow)	**56.581.365**
benefits - Costs = marginal benefit	**-33.084.543**

The total cost determined with the subsidizing and the tax exemptions, divided by the number of employments generated in the period, points out to a value per new employment that varies from the lowest 7.534 EUR in Johnson Controls Shtip, where in an absolute number, we have the biggest number of employees, to the maximal 46.674 EUR per employment in Johnson Matthey. On an average scale, in the examined period, the cost for the country per employment unit is approximately 21.454 EUR for these seven companies in the period 2007 - 2014.

COSTS	**Visteon**	**J. Matthey**	**Vitek**	**Kemet**	**Van Hool**	**Prodis**	**J. Controls Shtip**	**TOTAL**
Costs (*EUR)*	**5.624.809**	**21.761.475**	**1.229.456**	**3.361.010**	**12.647.692**	**1.586.473**	**10.370.451**	**56.581.365**
New jobs	**321**	**534**	**33**	**144**	**485**	**72**	**1.499**	**3.088**
Costs per employment *EUR*	**17.523**	**40.752**	**37.256**	**23.340**	**26.078**	**22.034**	**6.918**	**18.323**
Costs per employment (discounted flow) *EUR*	**23.829**	**46.674**	**44.568**	**26.913**	**31.201**	**26.460**	**7.534**	**21.454**

By discounting the flows, NPV and IRR for each of the investments in the given period can be calculated for costs and benefits with a discount rate of 8%. At the same time, we can calculate the cost per employment having in mind the total discounted flows of the costs in the given period. However, the benefit and cost flows are negative except for Visteon; the discounting of the flows additionally reduces the value of the negative NPV of the flows, and a calculation of the IRR is unfounded.

On the other hand, except for the economic net benefits which refer to the country, and which were analyzed above, a financial analysis can be made of the private investors, i.e. entities through an analysis of the financial reports and determined assumptions on the investment of the country. For that purpose, we will determine the Net Present Value of the investment for a period of ten years, with and without the investment of the country through the allotted aid and tax exemptions.

With the purpose of determining the value of the profit which is generated or will be generated as a result of the investment expressed in the current money value, we are calculating using the concept of Net Present Value (NPV). While conducting the profitability of the investments, an estimation of the period 2007-2014 has been made as a result of the short period of existence of the companies, where 2014 represents a base year for the purposes of the discounting[57] of the payment flows. Additionally, a projection to 10 years has been made on the basis of the last years' trend in order to overcome the short period of existence of some of the companies, as well as an assumed growth of 5% for Visteon having in mind the announced leaving after the expiry of the tenth tear, 10% annual growth for Johnson Matthey, considering the previous years and the relatively longer period of existence, and 15% growth for the companies which exist from 2011, assuming that a bigger growth is needed to reach maturity[58], and a projection for all of the companies, that they will fully reinvest the generated profit in the projected years, increasing the capital of the company. The analysis of the financial return of investment, during the calculation of the net payment flows, considers the residual value of the investments (determined in this analysis) as an income flow, and determines the operational costs, the additional investment, the amount of the state investments (costs arising from the tax and non tax incentives) as outflow.

The financial analysis indicates that the combination of the Government incentives had a net positive effect on Visteon investment results. Although the NPV of the investment in the period till 2014 is negative (-9.2 million EUR), as a result of the tax exemptions and the rest of the incentive, the net loss has been reduced to 5.4 million EUR. With the additional projection of growth by 5% per year for the following two years, the net loss is reduced by 4.4 million EUR. Still, we emphasize that this analysis envisages the financial value of the investment, while the economic benefits were calculated in the previous section of this analysis. (See Table 3)

When it comes to Johnson Matthey, the analysis indicates that the combination of incentives by the Government has a significant positive effect on the results of the investment; the NPV of the

[57] Discount rate of 8%

[58] The company Prodis, because of the negative results in the previous period and the uncertain future, has been removed from the projections. http://www.telma.com.mk/vesti/dali-farmacevtskata-kompanija-prodis-kje-se-zatvori

investment is positive after the fifth year, even without the Government incentives (47.6 million EUR), and as a result of the tax exemptions and the rest of the incentives, the net profit is increased by more than 14.5 million EUR, which, in turn, with a projection of the additional growth of 10% on an annual level for the following years, increases by 30.48 million EUR. The additional profitability of the investment through the internal investment return rate points out that it is by 2% bigger as a result of the given incentives, which, even without the exemptions, has a 15% rate, which is significantly above the 8% discount rate. (See Table 3)

The combination of incentives by the Government had a crucial effect on the profitability of Vitek, i.e. had a positive effect on the results of its investment. The NPV of the investment is negative even without the government incentives, but as a result of the tax exemptions and the rest of the incentives, the net loss is reduced by 0.86 million EUR. With a projection of additional growth of 15% for the following years, the profitability of the investments, as a result of the incentives and investments, increases and becomes positive, in comparison with the negative value, if it wasn't supported with the incentives. The additional profitability of the investment through the internal investment return rate indicates that it is by 5% bigger as a result of the distributed incentives.

As for the previous company, the situation is similar when it comes to Kemet Electronics, which points out that, without the Government incentives, the investment would be financially non-profitable for the private investor, i.e. as a result of the Government incentives, with a projection up to ten years, Kemet reduces its net loss by 4.8 million EUR by which, the investment now has a Net Present Value of 0.9 million EUR. (See Table 3)

In regard to Van Hool, the profitability of the investment increased by more than 9.2 million EUR in the period of only three years of existence as a result of the Government incentives. The investment, with projected flows for ten years and an annual growth of 15%, is expected to reach 18.2 million EUR expressed in the current value, where the biggest share belongs to the country. The same goes for Johnson Controls Shtip; the key share for the profitability of the investment in the first three years of existence, but also for a period of ten years, is the participation of the incentives. Namely, the investment generated positive value, even in the first three years, of 1 million EUR, discounted by an 8% rate as a result of the incentives, and 6.5 million EUR from the net loss that the company would have generated if it didn't receive the incentives and subsidies.(See Table 3)

The simulation of the Government during the financial calculation of the Net Present Value of the investment since the beginning of the existence of the companies till the end of 2014, for every investment and sub-simulation which projects the profitability of the investment for a ten years' period, indicates an interesting finding. Namely, for most of the companies, the profitability of the investments in current value, even after ten years, is of crucial importance for the amount of the profitability of the investments as well as the net profit per investment for the private entity –foreign investor. This indicates the possibility that most of the companies wouldn't invest in Macedonia without the incentives of the country. This is different for the company Johnson Matthey whose profitability is significant even without the incentives of the country. This questions the adequacy of the strategy for attracting foreign investments, but even more, the manner by which they would be maintained for a longer period in order for the investors to stay after the expiry of the tenth year,

because their leaving would also mean a capital drain that the investors imported/generated in the country, laying off employees, and need of looking for other investors in TIDZ.

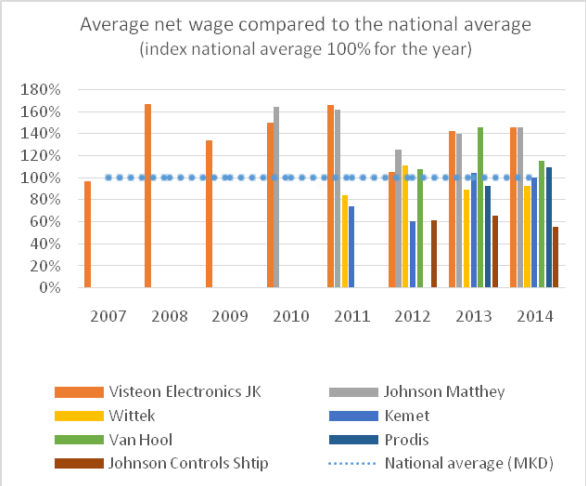
Additional conclusions that could be deduced from the financial reports are:

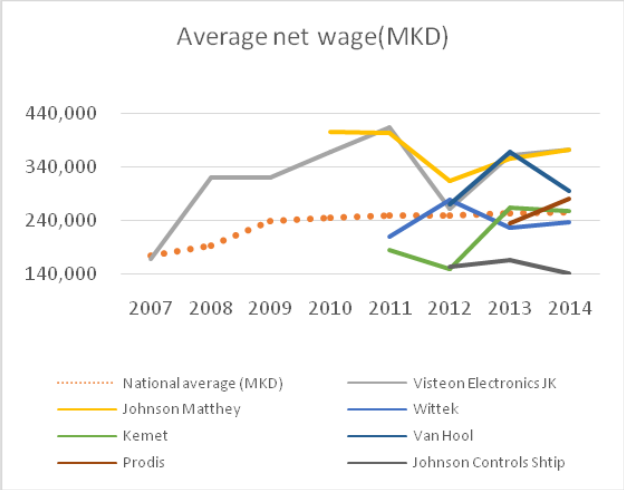
- The companies-beneficiaries in TIDZ, for the purpose of financing the means with a significantly bigger share, are financing through duties, and to a smaller extent, through increasing of the capital. The indebtedness is though connected parties, i.e. by taking loans from the parent companies, for which the companies pay interest, significant sums which are generated as costs reducing the profit, but, at the same time, which reflects with a reduced allocation of profit toward the parent company, i.e. lower calculated profit tax for an allocated profit. The company Johnson Matthey, which has a significant turnover and incomes, net mark-up and liquidity as Kemet Electronics, where the financing is also through an initial capital to a bigger extent in relation to the financing through a debt, is an exception.
  According to the financial indicator *debt versus equity*, it is evident that the debt as a form of financing, to a high extent, prevails in Vitek, Van Hool, Johnson Controls and Visteon Electronics, Prodis. A larger financing through capital is noticeable in Johnson Matthey and Kemet Electronics, where the ratio is significantly below one (1). This is an indicator that the companies extract means which are not subjected to taxation through increased loan costs, with which the potential profit for the country is reduced by a tax on allocated profit, and the value of the potential profit that would be reinvested to increase the capital is also reduced. In this way, the initiating capital of the companies does not grow sufficiently; allowing the companies to easily relocate the investment "elsewhere" in a situation when the region competes with whom from the foreign investors will give more.
  (See Annex Table 4).

  The current ratio of the companies in TIDZ demonstrates that the liquidity of the companies is different, i.e. that Johnson Matthey and Kemet Electronics continuously have biggest liquidity for enduring the current duties with the current demands, which is around two and three, while middle coefficients of liquidity appear in Visteon, Van Hool, Johnson Controls, around 1, while the same coefficient is below one in Vitek and Prodis. (See Annex Table 4)
- From the beginning of the operations till the end of 2014, the compared amounts of *net profits/losses per company as a percentage from the deduced investment* of the companies indicate that Johnson Matthey has the highest return of investment, which is a result of the biggest net profits compared to the other companies. A positive return of investments till 2014 is also recorded for Kemet, Van Hool and Johnson Controls Shtip. (See Table 4)

These indicators of a subtle capital drain from Macedonia indicate, once again, the potential non-sustainability of the attracted investments in order for them to remain in Macedonia after the ten year period. Therefore, the need to find another strategy for attracting and retaining investors is inevitable, because even though the negative effects cannot be quantified, such a scenario would significantly reduce the foreign investments net benefits in the following five to ten years.

- The paid net wages of the employees in the companies are approximately on the national level, but it is evident that Visteon and Matthey have a continuous payment of net wages above the average, which is not the case with the other companies, i.e. Johnson Controls in Shtip, Vitek and Kemet, which have annual net wages below the average. The continuous promotion of a cheap workforce, at the same time, of a policy of attracting developed technologies, is not reflected in the price of the workforce. Namely, if we assume that the wages are a reflection of employments for which no highly qualified workforce is needed and which would develop new technologies with a big value added, then, it appears that the main employments are characterized by a manual workforce, with which the effect of transfer of knowledge and spillover of knowledge in other companies in the sector is not achieved. Simultaneously, bigger wages are not a motivation for the government because higher costs from the budget of the country are generated in that way, through a higher absolute value for the personal tax on wages, and contribution for the whole wage of the employees, wherever this is the case. Additionally, the sectors which are a generator of new knowledge as well as transfer of knowledge such as research and development, marketing, sales, are retained in the mother companies or in the regional centers, which limits the factor spillover of knowledge.





6.5. Opportunity cost – what is the loss in taxes?

Out of the system of attracting FDI which, in Macedonia, is more of a political signal than an economic one for attracting FDI, the State Aid is actually an indirect subsidy for those investors who would come to Macedonia even without the subsidies. In accordance with this theory of indirect subsidy, the cost of these measures is actually the percentage of investors who would come

even without the system of attracting investments. We will call this percentage - a redundancy rate[59]. In this section of the analysis, we consider only the tax exemptions.

In that case, the costs would be:

$$R*FDI*Y*t*N \quad (3)$$

Where:
R – Redundancy rate (the percentage of investors who would come even without incentives);
Y – Average yield rate of an investor;
t – Tax rate;
N – number of years of tax exemption.

In this case, the incremental FDI which is attracted through the System of attracting FDI would be (1-R)*FDI.
Further, the cost of tax nonpayment would be

$$C=R*(Y*t*N)/(1-R) \quad (4)$$

In Macedonia, the profit tax rate and the personal income tax rate are 10%, and the average yield rate of each investor is displayed in Table 5 (See Annex).

The exemptions in the table below are expressed 1) in absolute numbers in the period 2007 -2014 and 2) on the basis of a ten year projection.

COSTS EUR	Visteon Electronics J Controls	Johnson Matthey	Vitek	Kemet	Van Hool	Prodis	Johnson Controls Shtip	***TOTAL 2007-2014***
Exemp from GT	585.690	13.643.740	23.355	203.302	388.653	0	184.622	15.029.361
Exemp. from PIT	946.992	930.201	27.142	193.580	318.599	66.513	608.660	3.091.687
TOTAL Taxes	**1.532.683**	**14.573.941**	**50.496**	**396.882**	**707.251**	**66.513**	**793.282**	**18.121.048**

The exemption from paying taxes lasts ten years. Taking these assumptions and calculations into consideration, the cost for the central budget in the period of ten years for each of the companies is a function of the redundancy rate, or in other words, function of the percentage of investors who would invest in Macedonia even without tax exemptions (See Table 5)

$$Cost = 0.20*(Y*0.10*10)/(1-0.20) \quad (5)$$

[59] More in FIAS occasional paper; 2001, "Using tax incentives to compete for foreign investment-are they worth the cost?".

The loss in taxes in that case can be calculated as:

$$NPV = \sum_{n=1}^{N} \frac{1}{(1+r)^n} \frac{(R * FDI * Y * t * N)}{(1-R)} \quad (6)$$

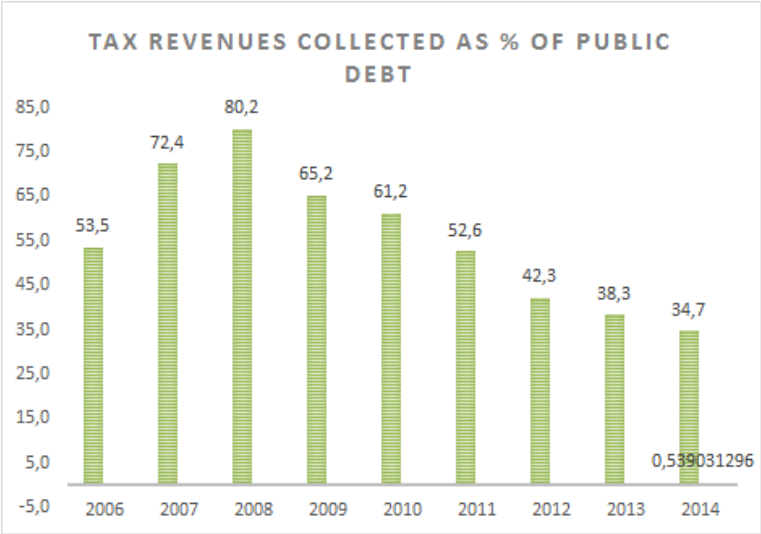
Where „r" represents the discount rate, which we take to be equal to 8%[60].

The loss in taxes is displayed in the following table

Investor Value in EUR	Investment (EUR) projection for 10 years (discounted)	Lost Tax (NPV)	Lost Tax % from the Investment in 10 years
Visteon Electronics	25.370.166	441.093	2
Johnson Matthey	403.820.452	28.949.862	7
Vitek	16.308.848	738.409	5
Kemet	24.238.644	1.691.788	7
Van Hool	43.039.919	2.657.108	6
Johnson Controls Shtip	23.178.437	2.170.869	9
Total (EUR)	***535.956.465***	***36.649.129***	***7***

The investment in the projected period for each of the companies is stipulated to be the whole retained profit assuming that there will be no allocation of the profit and it would be fully reinvested; normalized in the years from 1 to 10 and discounted with a rate of 8%. Therefore, we can conclude that the budget would lose 36.6 million EUR in present value as a result of the lost taxes from the companies in TIDZ.

[60] See more in: Establishing Public Sector Investment Discount Rate, 2009, Garvanlieva, Andonov, Nikolov: http://www.cea.org.mk/documents/studii/Public%20Sector%20Discount%20Rate%20short%20version%20final.pdf



Tax Revenues as percentage of the public debt (according to a definition by the MF Source: data from the Ministry of Finance and calculations by the authors

With this, we would like to point out to the significance of such analyses which, on a long-term plan, can assess whether the System of attracting FDI in Macedonia is useful or whether something needs to be changed. In particular, the dynamics of the public debt is a concerning factor, the Government doesn't respect its own fiscal rules[61] and the taxes reduce the participation in the public debt as shown in the Figure. The loss in taxes for one year, for example 2014, amounts to 452 million denars, and is 0,539% percent of the total collected income taxes or 0,2% of the public debt for the given year.

6.6. Additional indirect benefits

The incentives and projects for attracting investments and export promotion are based on investment policies which, except for direct benefits, also have more indirect benefits that cannot be quantified, or their measurement would be more costly and an analysis of the data, rather than the benefit that would derive from the data collection.

For each and every one of these numerations of indirect benefits, we could say that the expectations are good; however, we would like to emphasize some of the challenges which make the realization of these expectations in Macedonia modest at best.

Indirect Benefits	**Challenges in the realization of these indirect benefits**
1. Positive externalities in the form of transfer of knowledge, new qualifications and a positive impact on other companies, including the	1. The important functions (sales, research and development, marketing) with a higher value added remain in the parent company with a

[61] See more in: http://cea.org.mk/dobro-upravuvane-preku-pogolema-fiskalna-transparentnost-preporaki-za-implementatsija-na-preporakite-od-ad-hok-komisijata/?lang=en.

domestic companies; 2. Introducing new business sectors that have an effect as pilot projects and whose experience can attract other companies i.e. multiplication effect; 3. Transfer of new technologies in the production, but also in the corporate governing such as management, finances, which, in turn, leads to the advancement of the labour capacities for those technologies, which can later be transferred to other companies making the domestic market more competitive; 4. Agglomeration of businesses and clusters in the industry which would profit a comparative advantage on a national level and horizontal and vertical linkages; 5. Export promotion on national level because the companies in TIDZ almost exclusively place their production on the export markets. 6. Work with local companies which have benefits by increasing the transfer, as well as their capacities 7. Potential for a restructuring of the industries in the region and transforming the economy in an exporter of goods and services, integrating the national economy in the world economy in a more effective manner compared to the traditional trade.	limited transfer in Macedonia. According to the IMF Report in relation to the externalities from these zones, it is indicated that the export (which is more than one third of the total export in 2014) is mainly based on import and the anecdotic proof reflect limiting overflow of the domestic good suppliers, partly because of their inability to meet the technical and security demands for export in EU[62]. The Industrial-Green Zones that should operate pursuant to the Law on Industrial-Green Zones and which should provide business connections and integration of the subjects from TIDZ with the domestic economy weren't realized, and we are expecting a new Law on Industrial-Green Zones 2. We are still anticipating effects of a bigger scale. Still, the withdrawal of one company exactly after 10 years when the subsidizing conditions expire, give indications that these investments are not of a sustainable character 3. This could be expected with the amended Law on Industrial Green Zones 4. Enabling these subjects to place their products on the domestic market is subjected to an unfair competition toward the domestic manufacturers and the concept of State Aid is violated. 5. This could be expected with the amended Law on Industrial-Green Zones 6. This could be expected if we attract investments in sectors that are already competitive and recognizable with the purpose of their bigger development, such as, for example, the food processing industry.

[62] More on: https://www.imf.org/external/pubs/ft/scr/2015/cr15242.pdf

7. *Recommendations for promotion of the policies for attracting foreign investments*

1. This analysis is first of its kind and is focused on evaluating the effects of FDI in the Republic of Macedonia; it provides a good platform for establishing a practice for analyzing the effects from the State Aid in TIDZ, which should grow into practice through a bigger transparency for a deeper and more detailed analysis with data and exact information, replacing the assumptions by concrete data;
2. It is necessary to make an evaluation of the policy on attracting FDI in Macedonia, considering the wider aspect of the political stability, the regional competition for attracting FDI and the political economy, as opposed to the tighter aspect of the attracting of FDI through price-fiscal measures, and to determine the sustainability and the influence of the social economy for a longer period of time.
3. Enhancement of the State Aid transparency and following the rules undertaken by the EU in that direction is necessary in order for the State Aid to achieve its goal[63][64]. The contracts should be public and transparent, and the sums should be available to the Macedonian citizens.
4. Finding a form for an increased sustainability of the investments in the sense of retaining the investors even after the expiry of the ten year period of using the benefits, i.e. the tax exemptions. Although we have successful stories of free economic zones (FEZ) worldwide, still, one of the reasons for failure among those unsuccessful stories are attracting investments and creating employment on a short term, and, they weren't sustainable on a long term when the labour costs increased or when the preferential conditions didn't provide enough advantage[65].
5. Stimulating governing of TIDZ by the private sector through models of Public Private Partnership (PPP), which, by definition, is more dynamic in relation to the public sector in the implementation of the regulation in the zones, and at the same time, it could offer expertise and better risk management.
6. Research on FEZs on global scale indicates that new strategies, which are more than attracting multinational companies, are needed - strategies that help stay competitive, not through fiscal exemptions, but through attracting investments with a higher value added, with a focus on physical, strategic and financial connections between the zone and the local economy.
7. It is necessary the FDI advancement policies to focus on second generation reforms, particularly in the direction of increasing the Gross Value Added, through structural reforms for strengthening the education and skill, as well as through provision of a better infrastructure. These reforms will increase the growth potential which is needed to "carry" the rise in the debt[66].

---

[63] "promotes accountability and provides an opportunity for the citizens to be better informed on the public policies. Better informed constituents enable a more effective dialog between citizens and the government and results with better decisions that refer to the policies"

[64] Competition policy brief, State Aid Transparency for taxpayers, May, 2014, EK, ISBN 978-92-79-35545-5, ISSN: 2315-3113

[65] www.wbginvestmentclimate.org, World Bank, annual report 2008, FIAS Performance, Lessons Learned and Implications for Zone Development

[66] https://www.imf.org/external/pubs/ft/scr/2015/cr15242.pdf

References

1. Agency for foreign investments and export promotion of the Republic Macedonia http://www.investinmacedonia.com/investing-in-macedonia/technological-industrial-development-zones-tidzs,
2. Competition policy brief, State Aid transparency for tax payers, May 2014, EK, ISBN 978-92-79-35545-5, ISSN: 2315-3113
3. Cost benefit analysis for investment decision, chapter 12, The economic opportunity cost for labour, Glenn P. Jenkins, Queen's University, Kingston, Canada, and Eastern Mediterranean University, North
4. Directorate for Technological Industrial Development Zones, www.fez.gov.mk
5. European Commission, State Aid, Overview http://ec.europa.eu/competition/state_aid/overview/index_en.html
6. International Monetary Fund, IMF Country Report No. 15/242, Former Yugoslav Republic of Macedonia, 2005 Article IV Consultation, Press Release, September 2015, available on https://www.imf.org/external/pubs/ft/scr/2015/cr15242.pdf
7. Johnson Controls, http://www.johnsoncontrols.com/content/us/en/contact/automotive_experience/electronics.html, retrieved on 24/11/2015
8. Journal of International Business & Law, legal and business article, US foreign trade zone, tax free zones of the world and their implications on the US economy, Susan Tiefenbrun, Vol. 12 Issue 2, Article 11, 2013
9. Measuring Costs and Benefits of Export Promotion Projects, Findings From A.I.D. Experience, Jennifer Bremer, Charles Bell, 1993, Center for Development Information and Evaluation U.S. Agency for International Development, available at http://pdf.usaid.gov/pdf_docs/PNAAX277.PDF
10. Menzinger J. (2003): Does Foreign Direct Investment Always enhance economic growth?, KYKLOS, Vol. 56 – 2003 – Fasc. 4, 491–508
11. Principles to enhance the transparency and governance of tax incentives for investment in developing countries, OECD, Tax and development, http://www.oecd.org/ctp/tax-global/transparency-and-governance-principles.pdf
12. PRNewswire, 1/7/2014, Visteon Completes Acquisition of Electronics Business of Johnson Controls, http://www.prnewswire.com/news-releases/visteon-completes-acquisition-of-electronics-business-of-johnson-controls-265370241.html (seen on 24/11/2105)
13. Shadow wages for the EU regions Chiara Del Bo, Carlo Fiorio, Massimo Florio, DEAS, Università degli Studi di Milano, 2011, http://fiorio.economia.unimi.it/res/Del%20Bo%20Fiorio%20Florio%20Article%202011_1_17.pdf
14. Special Economic Zones Progress, Emerging Challenges, and Future Directions Thomas Farole, Gokhan Akinci, International Trade Department, World Bank, https://openknowledge.worldbank.org/bitstream/handle/10986/2341/638440PUB0Exto00Box0361527B0PUBLIC0.pdf
15. The Economist, Special Economic Zones Not so Special, 4/4/2015, seen 27/11/2015
16. The World Bank, http://data.worldbank.org/
17. World Bank, annual report 2008, FIAS Performance, Lessons Learned and Implications for Zone Development, www.wbginvestmentclimate.org,
18. 24 Vesti, The Subsidies and labour saved the Belgian company „Van - Hol", 07.08.2014, http://24vesti.mk/subvenciite-i-rabotnata-sila-ja-spasija-belgiskata-kompanija-%E2%80%9Evan-

hol%E2%80%9D
19. Treaty on the Functioning of the European Union (Consolidated version from 2012, Official Gazette C 326 from October, 26, 2012)
20. Annual reports for the companies for respective years, Central Registry of the Republic of Macedonia, received in December, 2015
21. Commission for Competition Protection, the Republic of Macedonia available on http://www.kzk.gov.mk/mak/zapis_decision.asp?id=11 (seen on 20/12/2015)
22. National Bank of the Republic of Macedonia, www.nbrm.mk
23. Parliamentary supervision over the competition policies, State Aid and the attracting of Foreign Direct Investments in the countries of Western Balkan, CEA, 2013, M. Nikolov, V. Garvanlieva, K, Cuculoska see on http://www.cea.org.mk/documents/6354NPCtoolkitMK-FINAL.pdf
24. Public Revenue Office, http://www.ujp.gov.mk/m/megjunarodni_organizacii/category/1027
25. Law on State Aid Inspection, (Official Gazette of the Republic of Macedonia, no.145/2010)
26. Law on Technological Industrial Development Zones(Official Gazette of the Republic of Macedonia no. 14/07, 103/08, 130.08, 139/09, 155/10, 127/12, 41/14, 160/14, 72/15, 129/15, 173/15, and 192/15)
27. Law on Industrial-Green Zones (Official Gazette of the Republic of Macedonia no. 119/2013 and 160/2014)

Value added in foreign-controlled enterprises as a share of the total value added	2008	2009	2010	2011
EU (28 countries)	:	:	:	:
EU (27 countries)	:	9,34	9,83	:
Euro area (18 countries)	:	:	:	:
Euro area (17 countries)	:	:	:	:
Belgium	:	:	:	29,43
Bulgaria	26,17	26,6	29,91	32,28
Czech Republic	40,63	41,93	42,87	42,94
Denmark	24,21	25,31	24,81	24,64
Germany	20,2	17,36	20,32	18,14
Estonia	41,45	40,88	44,61	43,76
Ireland	47,57	49,23	54,39	56,15
Greece	:	:	:	:
Spain	13,46	13,83	17,54	18,69
France	19,54	15,6	15,99	16,25
Croatia	:	:	20,79	24,56
Italy	13,21	13,3	13,94	14,06
Cyprus	5,77	6,42	7,8	9,14
Latvia	22,92	25,68	29,34	30,13
Lithuania	21,2	26,79	29,44	29,85
Luxembourg	:	43,65	42,18	42,42
Hungary	46,99	49,1	49,26	51,89
Malta	44,31	:	:	:
Netherlands	24,42	24,29	25,33	25,92
Austria	24,04	22,97	25,18	25,49
Poland	32,13	32,98	33,71	35,07
Portugal	:	:	17,4	19,72
Romania	39,34	40,34	42,71	40,75
Slovenia	16,5	16,46	17,05	19,21
Slovakia	41,65	43,31	36,47	38,23
Finland	19,42	19,52	19,67	20,87
Sweden	26,86	28,88	28,37	27,87
United Kingdom	28,72	28,6	29,05	29,28
Iceland	:	:	:	:
Liechtenstein	:	:	:	:
Norway	27,08	24,55	25,08	25,36
Switzerland	:	:	:	:
Montenegro	:	:	:	:
FYRMacedonia	:	:	:	:

Source: Eurostat

European Regulation of State Aid and Harmonization of Law

Despite the general ban on State Aid, under certain circumstances, governmental measures for a good functioning and equitable economy are necessary. Therefore, the Treaty[67] leaves space for a great number of goals for certain policies where the State Aid can be considered compatible. The EU legislation stipulates these exemptions. The laws are regularly revised in order for their effectiveness to be improved and in order to address the European Council calls on a reduced, but better oriented State Aid for strengthening the European economy. The Commission adopts the legal regulation in a tight cooperation with the member - countries[68]. This area is regulated by a Treaty on the Functioning of the European Union[69] and according to it,
"the most important exceptions are those in Article 87(3)(a) и 87(3)(v) of the Treaty: Article 87 (3) (a) covers *„the aid on economic growth promotion of the areas where the living standards are low or where there is a serious unemployment level"; Article 87(3) (в) refers to the „Aid in order to enable growth of certain professions or business sectors, where such aid will not influence adversely on the conditions of trade, as opposed to the general interests "*.[70]

The Law on Technological Industrial Development Zones (TIDZ) was adopted in Macedonia in 2007 and the first text was not fully harmonized with the EU legislation in the segment of the State Aid; because of that, there were consultations with the European Commission in order for a harmonization to be achieved. In 2007, the Commission for Competition Protection (CCP) issued an expert opinion that the text of the law violates the Law on State Aid and the obligations of the EU legislation. The current Law on Technological Industrial Development Zones represents an aid pattern and is in accordance with the EU State Aid Legislation in the section of regional help and it prescribes the benefits for the foreign investors in TIDZ[71].

[67] Refers to the Treaty on the Functioning of the European Union
[68] http://ec.europa.eu/competition/state_aid/overview/index_en.html, authors' free translation
[69] Treaty on the Functioning of the European Union (Consolidated version from 2012, Official Gazette S 326 from October 26, 2012
[70] Parliamentary supervision over the competition policies, State Aid and the attracting of Foreign Direct Investments in the countries of Western Balkan, CEA, 2013, M. Nikolov, V. Garvanlieva, K, Cuculoska see on http://www.cea.org.mk/documents/6354NPCtoolkitMK-FINAL.pdf
[71] Ibid.

Table 1 Costs (EUR), per company and total

COSTS (EUR)	Visteon Electronics	Johnson Matthey	Vitek	Kemet	Van Hool	Prodis	Johnson Controls Shtip	**TOTAL for 2007-2014**
Exemptions from profit tax	585.690	13.643.740	23.355	203.302	388.653	0	184.622	15.029.361
Exemptions from personal tax	946.992	930.201	27.142	193.580	318.599	66.513	608.660	3.091.687
Difference in rent compensation	1.549.127	2.420.534	294.959	519.128	430.641	294.959	589.919	6.099.267
Grant for building an object	500.000	500.000	500.000	500.000	500.000	500.000	500.000	3.500.000
Public utilities	6.000	13.000	3.000	10.000	117.600	5.000	20.250	174.850
Training	1.605.000	2.670.000	165.000	1.215.000	2.425.000	360.000	7.495.000	15.935.000
VAT of a building	432.000	1.584.000	216.000	720.000	8.467.200	360.000	972.000	12.751.200
Costs	***5.624.809***	***21.761.475***	***1.229.456***	***3.361.010***	***12.647.692***	***1.586.473***	***10.370.451***	***56.581.365***
Discount cost flow[72] (2007-2014)	7.649.194	24.923.849	1.470.748	3.875.449	15.132.264	1.905.111	11.293.943	66.250.558

Table 2: Benefits versus costs, marginal benefit

	Visteon Electronics JK	**Johnson Matthey**	**Vitek**	**Kemet**	**Van Hool**	**Prodis**	**Johnson Controls Shtip**	**TOTAL**
Employment benefit flow **10 * J * W * (1 - LCR) * A for every year until 2014**	**7.197.143**	**7.069.530**	**206.278**	**1.471.206**	**2.421.349**	**505.501**	**4.625.815**	**23.496.822**
Costs (undiscounted flow)	**5.624.809**	**21.761.475**	**1.229.456**	**3.361.010**	**12.647.692**	**1.586.473**	**10.370.451**	**56.581.365**
Benefits - Costs = marginal benefit	**1.572.334**	**-14.691.945**	**-1.023.178**	**-1.889.804**	**-10.226.343**	**-1.080.971**	**-5.744.635**	**-33.084.543**

Table 3: Financial profitability per company

Visteon Electronics (EUR)	Period 2007-2014	With a projected growth of 5% until the 10th year
NPV (private and public capital)	(9.184.126)	(8.757.532)
NPV (private capital)	(5.357.624)	(4.357.212)
Difference NPV	3.826.501	4.400.321

[72] Discount Rate 8%, see Establishing Public Sector Investment Discount Rate, 2009 Garvanlieva, Andonov, Nikolov

IRR1 (private and public capital)	0,87%	2,60%
IRR2 (private capital)	3,68%	5,22%
Difference IRR	2,82%	2,62%

Johnson Matthey (EUR)	Period 2009-2014	With a projected growth of 10% until the 10th year
NPV (private and public capital)	47.576.878	102.252.035
NPV (private capital)	62.119.704	132.732.669
Difference NPV	14.542.826	30.480.634
IRR1 (private and public capital)	15,70%	15,44%
IRR2 (private capital)	18,12%	17,72%
Difference IRR	2,43%	2,28%

Vitek Electronics (EUR)	Period 2009-2014	With a projected growth of 15% until the 10th year
NPV (private and public capital)	(1.740.760)	(856.706)
NPV (private capital)	(882.592)	287.900
Difference NPV	858.167	1.144.605
IRR1 (private and public capital)	-3,65%	6,75%
IRR2 (private capital)	1,49%	8,44%
Difference IRR	5,14%	1,68%

Kemet (EUR)	Period 2011-2014	With a projected growth of 15% until the 10th year
NPV (private and public capital)	(4.146.540)	(3.903.431)
NPV (private capital)	(1.598.260)	916.606
Difference NPV	2.548.280	4.820.038
IRR1 (private and public capital)	0,20%	5,53%
IRR2 (private capital)	4,89%	8,60%
Difference IRR	4,69%	3,07%

Van Hool (EUR)	Period 2011-2014	With a projected growth of 15% until the 10th year
NPV (private and public capital)	(8.156.564)	421.023
NPV (private capital)	1.092.202	18.229.351
Difference NPV	9.248.767	17.808.328
IRR1 (private and public capital)	-15,36%	8,29%
IRR2 (private capital)	11,75%	21,78%
Difference IRR	27,11%	13,48%

Johnson Controls (EUR)	Period 2011-2014	With a projected growth of 15% until the 10th year
NPV (private and public capital)	(6.547.739)	(7.583.275)
NPV (private capital)	1.017.368	7.657.431
Difference NPV	7.565.106	15.240.706
IRR1 (private and public capital)	-15,61%	1,88%
IRR2 (private capital)	12,07%	15,03%
Difference IRR	27,68%	13,15%

Table 4 Financial reatios

Debt/Capital	***2007***	***2008***	***2009***	***2010***	***2011***	***2012***	***2013***	***2014***
Visteon Electronics JK	-10,95	0,76	1,19	3,63	4,28	2,40	1,22	1,17
Johnson Matthey			0,14	2,61	0,42	0,26	0,41	0,40
Vitek			0,00	0,00	-89,77	-20,31	-46,05	50,62
Kemet					0,01	0,06	0,31	0,19
Van Hool						0,74	8,05	6,50
Prodis						5,47	-13,72	-3,29
Johnson Controls Shtip					-16,26	44,14	17,31	9,94

RoI ***Return on Investment***	***From the establishment till the end of 2014***
Visteon Electronics JK	-7%
Johnson Matthey	42%
Vitek	0,3%
Kemet	5%
Van Hool	13%
Prodis	-25%
Johnson Controls Shtip	8%

Current assets/ Current liabilities	2007	2008	2009	2010	2011	2012	2013	2014
Visteon Electronics JK	0,55	0,93	1,02	1,36	1,07	0,93	1,13	0,95
Johnson Matthey			3,48	1,11	2,65	3,49	2,47	2,72
Vitek					1,84	0,11	0,26	0,46
Kemet					20,96	3,33	1,45	2,58
Van Hool						1,32	0,99	1,32
Prodis						0,23	0,38	0,24
Johnson Controls Shtip					0,38	0,38	1,82	1,29

Table 5. Average investor yield rate, cost

The calculation with those assumptions is given in the table below:

Investor	**R**	**Y**	**t**	**N**	**(1-R)**	**Cost**
Visteon Electronics JK	0,20	2%	0,10	10	0,80	0,005
Johnson Matthey	0,20	6%	0,10	10	0,80	0,014
Vitek	0,20	5%	0,10	10	0,80	0,014
Kemet	0,20	3%	0,10	10	0,80	0,007
Van Hool	0,20	5%	0,10	10	0,80	0,012
Prodis	0,20	0%	0,10	10	0,80	0,000
Johnson Controls Shtip	0,20	6%	0,10	10	0,80	0,015
Total	0,20	4%	0,10	10	0,80	0,068

*Prodis, for which there are information to have an interruption of the operations at the moment of preparing the report, and because it hasn't achieved profit so far, will be removed because, as non typical results, they will cause a distortion in the calculations, which won't give a real image of the overall review of the companies.