

Eurasian Studies in Business and Economics 12/1

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Eurasian Economic Perspectives

Proceedings of the 25th Eurasia
Business and Economics Society
Conference



Springer

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Series Editors

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Eurasian Economic Perspectives

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and Economics Society Conference

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Preface

This is the Volume 1—**Eurasian Economic Perspectives**—of the 12th issue of the Springer’s series *Eurasian Studies in Business and Economics*, which is the official book series of the **Eurasia Business and Economics Society** (EBES, www.ebesweb.org). This issue includes selected papers presented at the 25th EBES Conference—Berlin that was held on **May 23–25, 2018**, with the *GLO* (the *Global Labor Organization*) at the *FOM University of Applied Sciences* in Berlin, Germany, with the support of the *Istanbul Economic Research Association*.

Distinguished colleagues **Klaus F. Zimmermann** from *UNU-MERIT*, the Netherlands, **Marco Vivarelli** from *Universita Cattolica del Sacro Cuore in Milano*, Italy, **Sascha Frohwerk** from the *FOM University of Applied Sciences in Berlin*, Germany, and **Ahmet Faruk Aysan** from *Istanbul Sehir University*, Turkey, joined the conference as keynote speakers.

During the conference, participants had many productive discussions and exchanges that contributed to the success of the conference where 316 papers by 525 colleagues from 60 countries were presented. In addition to publication opportunities in EBES journals (*Eurasian Business Review* and *Eurasian Economic Review*, which are also published by Springer), conference participants were given the opportunity to submit their full papers for this issue.

Theoretical and empirical papers in the series cover diverse areas of business, economics, and finance from many different countries, providing a valuable opportunity to researchers, professionals, and students to catch up with the most recent studies in a diverse set of fields across many countries and regions.

The aim of the EBES conferences is to bring together scientists from business, finance, and economics fields, attract original research papers, and provide them with publication opportunities. Each issue of the *Eurasian Studies in Business and Economics* covers a wide variety of topics from business and economics and provides empirical results from many different countries and regions that are less investigated in the existing literature. All accepted papers for the issue went through peer-review process and benefited from the comments made during the conference

as well. The current issue covers fields such as regional studies, macro-economics, investment and risk management, economics of innovation, and law and regulation.

Although the papers in this issue may provide empirical results for a specific county or regions, we believe that the readers would have an opportunity to catch up with the most recent studies in a diverse set of fields across many countries and regions and empirical support for the existing literature. In addition, the findings from these papers could be valid for similar economies or regions.

On behalf of the series editors, volume editors, and EBES officers, I would like to thank all presenters, participants, board members, and the keynote speakers, and we are looking forward to seeing you at the upcoming EBES conferences.

Best regards

Istanbul, Turkey

Gökhan Karabulut

Eurasia Business and Economics Society (EBES)

EBES is a scholarly association for scholars involved in the practice and study of economics, finance, and business worldwide. EBES was founded in 2008 with the purpose of not only promoting academic research in the field of business and economics but also encouraging the intellectual development of scholars. In spite of the term “Eurasia,” the scope should be understood in its broadest terms as having a global emphasis.

EBES aims to bring worldwide researchers and professionals together through organizing conferences and publishing academic journals and increase economics, finance, and business knowledge through academic discussions. Any scholar or professional interested in economics, finance, and business is welcome to attend EBES conferences. Since our first conference in 2009, around 11,157 colleagues from 98 countries have joined our conferences and 6379 academic papers have been presented. *EBES has reached 2050 members from 84 countries.*

Since 2011, EBES has been publishing two journals. One of those journals, *Eurasian Business Review—EABR*, is in the fields of industrial organization, innovation, and management science, and the other one, *Eurasian Economic Review—EAER*, is in the fields of applied macroeconomics and finance. Both journals are published quarterly by *Springer* and indexed in *Scopus*. In addition, EAER is indexed in the *Emerging Sources Citation Index (Clarivate Analytics)*, and EABR is indexed in the *Social Science Citation Index (SSCI)*.

Furthermore, since 2014 Springer has started to publish a new conference proceedings series (*Eurasian Studies in Business and Economics*) which includes selected papers from the EBES conferences. The 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, and 20th (Vol. 2) EBES Conference Proceedings have already been accepted for inclusion in the *Conference Proceedings Citation Index—Social Science & Humanities (CPCI-SSH)*. The 20th (Vol. 1), 21st, and subsequent conference proceedings are in progress.

We look forward to seeing you at our forthcoming conferences. We very much welcome your comments and suggestions in order to improve our future events. Our success is only possible with your valuable feedback and support!

I hope you enjoy the conference and Berlin.

With my very best wishes,

Klaus F. Zimmermann
President

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Contents

Part I Regional Studies

Residential Real Estate in the Municipalities Located in the Naturally Valuable Areas in Poland	3
Alina Kulczyk-Dynowska and Katarzyna Przybyła	
Contemporary Trade Regionalism on the Example of Free Trade Area of the Asia-Pacific (FTAAP)	17
Sebastian Bobowski	
Financial Vulnerability of NGOs in Southeast Anatolia and Mediterranean Regions	37
Murat Önder and Emrah Ayhan	
Structural Changes on Polish Housing Market: Has the Market Returned to the Level Before the Crisis?	55
Barbara Batóg and Iwona Foryś	

Part II Macro Economics

Effect of GDP, Energy Consumption, and Material Consumption on Waste Generation: The Case of EU-28 Countries	73
Richard Gardiner and Petr Hajek	
A Comparative Global Overview for Flat-Plate Solar Collectors (FPSCS) in G-7 and G-20 Countries	87
Hakan Acaroğlu and M. Celalettin Baykul	
Cluster Analysis of Sustainable Development Goal Indicators in the European Union	99
Magdaléna Drastichová	

An Investigation of Turkey's Competitiveness on Different Products Groups in Automotive Sector via Revealed Comparative Advantage Index	125
Semanur Soy Yiğit and Kiy met Yavuzaslan	
Intra-industry Trade Development and Adjustment Cost: Testing Smooth Adjustment Hypothesis for the Estonian Labor Market	141
Grigori Fainstein	
Underemployment Among Educated Poles	149
Anna Bebel, Maria Piotrowska, and Marek Kořny	
Part III Investment and Risk Management	
A Factor Model for Country-Level Equity Returns	161
Adam Zaremba	
Earnings Quality and Market Efficiency: Evidence from Romanian Capital Market	193
Mihai Carp and Constantin Toma	
Assessing the Risk Associated with Lease Certificates in the Turkish Capital Market	211
Musa GÜN	
A Tale of Two States: An Application of a Markov Switching Model to Anomaly Returns	227
Adam Zaremba, Anna Czapkiewicz, and George D. Kambouris	
Influence of the Correlation Coefficient on the Risk of the Exchange Option	241
Ewa Dziawgo	
Part IV Economics of Innovation	
Evaluation of Creative Industries' Economic Impact in the EU Countries	253
Ugne Daubaraite and Grazina Startiene	
Disruptive Innovation and Dynamic Capabilities Approach: Sensing, Seizing, and Transforming	271
Oscar Mauricio Cruz-Sanchez, Michael Hernando Sarmiento-Muñoz, and Oscar Fernando Castellanos Dominguez	

Part V Law and Regulation

Formation of Contracts via the Internet	289
--	------------

Doruk Utku

Restraint of Trade Clauses in Commercial Agency Contracts: A Comparative Perspective	309
---	------------

Argun Karamanlioğlu

Equalization Demand of the Agent and Its Importance in Business Law	323
--	------------

Esra Hamamcioğlu

Commercial Agency Contract and Comparison with Similar Contracts (Exclusive Distribution, Franchising, Brokerage, and Commission Contracts)	337
--	------------

Özge Uzun Kazmaci

Women as Perpetrators of Economic Offences in France	351
---	------------

Joanna Brzezińska

Criteria for the Proper Management of Public Property and the Control of Public Procurement	365
--	------------

Jan Gola

The Jurisdiction of the European Commission and National Competition Authorities in the Control of Legal and Economic Aspects of Concentration Between Undertakings	377
--	------------

Wojciech Szydło

Public Tender as a Form of Selection of the Electricity Supplier for the Residents of the Commune	393
--	------------

Przybylska Monika

The Most Economically Advantageous Tender in the Public Procurement System in the European Union	403
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Part I

Regional Studies

Residential Real Estate in the Municipalities Located in the Naturally Valuable Areas in Poland



Alina Kulczyk-Dynowska and Katarzyna Przybyła

Abstract This chapter presents the selected aspects of residential real estate resources in 117 municipalities linked with Polish national parks. The necessity of meeting the living needs makes this type of real estate particularly important. As a result of interactions occurring between the residential real estate and its socio-economic environment, the selected features characterizing demography and the tourist function of the explored municipalities were discussed. The selection of territorial units was based on the criterion of establishing a national park in the area of a municipality. The research period covers the years 2005–2015. The purpose of this chapter is to attract attention to the situation of local communities residing in the areas covered by the highest rank of area forms of nature protection.

Keywords Real estate · National parks · Local development

1 Introduction

Covering the area with legal protection changes the rules of spatial management—this factor restricts economic activity. As a result, nature protection in national parks exerts not only spatial, but also economic impacts (Kulczyk-Dynowska 2014, 2015; Przybyła and Kulczyk-Dynowska 2017). Based on these restrictions certain allegations are put forward regarding spatial forms of nature conservation having a negative impact on local development, and thus on life quality of the local community (Wells and Brandon 1992; Mayer 2014; Bennett and Dearden 2014; Potocki et al. 2014). The counterarguments, however, emphasize that these areas do not actually restrict economic activity, but rather channel it—by supporting the development of tourism or organic farming (Marković et al. 2015; Mose 2016; Schott et al. 2016; Stokke and Haukeland 2017). In this context, it is highlighted that

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protected areas guarantee the beauty of landscape, ensure responsible spatial management, high quality of the environment and facilitate maintaining regional cultural identity (Krajewski 2017; Pluciennik et al. 2016; Szewrański et al. 2017).

National parks represent the widely known forms of nature conservation. They are covered by the highest rank of protection, and the limitations in force, addressed to their areas, are the most restrictive ones among all spatial forms of area conservation. The functioning of 23 Polish national parks is determined by the Nature Conservation Act 2004. (c. 92, item 880). In a global perspective, national parks perform an important role in maintaining biodiversity (Gray et al. 2016). At the same time, from the local perspective, they still remain a component of the municipal functional system (Brooks et al. 2006). It means that the local community and protected areas persist in continuous interaction on many levels—predominantly in terms of spatial management, having impact on, e.g. the development of construction sector (including residential housing) and tourist infrastructure constituting the necessary component of tourist function development in the discussed area.

The purpose of this chapter is to attract attention to the selected aspects of the life of local communities residing in areas covered by the highest rank of spatial nature conservation. The authors are seeking answers to two research questions. Firstly, do the resources of residential housing in the municipalities linked with national parks continue to develop? Secondly, is there any correlation between the tourist function of the analyzed municipalities and the housing function? A complementary problem is a tendency in the population number of local communities in the analyzed municipalities. A research hypothesis was adopted that the proximity of a national park stimulates the housing function. The spatial scope of the conducted research covers 117 municipalities territorially linked with 23 Polish national parks. The research period refers to the years 2005 and 2015. The beginning of the research is also the first full calendar year of Poland's functioning in the European Union structures. The end of the research period is determined by the availability of statistical data.

2 Methodology

The initial research stage consisted in identifying municipalities that are territorially linked with national parks. Adopting this criterion allowed separating 117 territorial units. The first research stage focused on a short analysis of population numbers. In the second stage, the tourist function and the development of residential housing resources (housing function) of the studied municipalities were analyzed. In each case 2005 was adopted as the base year, whereas 2015 as the analyzed year.

The statistical analysis carried out in the second part of the research, using linear ordering methods—synthetic development measures (SDM), requires a detailed description. It allowed constructing rankings of the municipalities in terms of the development level of both analyzed functions, to be followed by a comparative

analysis of municipalities in the studied areas and also correlation assessment between the development level of both the housing function and tourist function.

SDM construction and application are described by, e.g. Hellwig (1968); Strahl (1978); Walesiak (2006); Marti and Reinelt (2011); Kukuła (2012, 2014); Bal-Domańska (2016a); Kukuła and Luty (2017); Manly and Navarro Alberto (2017). Synthetic development measures are primarily recommended as a tool used in comparing local and regional systems, e.g. in terms of economic, social and environmental development—as indicated, among others, by Bal-Domańska (2016b), Malina (2008). Therefore, they can be applied in analyzing both the tourist function and the housing function. The study adopts that the municipalities linked with national parks form one set made up of 117 objects. SDMs for both analyzed aspects were constructed, i.e. for the housing function (SDM_{housing}) and the tourist function (SDM_{tur}). Due to the fact that 14 municipalities did not present tourist facilities subject to official reporting, the set of objects for SDM_{tur} was narrowed down to 103 units.

Based on SDM value the position of each municipality was determined in terms of the development level of the tourist function against the background of the housing function. The following research procedure was adopted:

1. Defining variables (indicators) for each SDM
2. Carrying out unitarization with zero minimum procedure for the entire period simultaneously (2005 and 2015)
3. SDM construction with a weight system in accordance with the method of (standardized) sums with a common development pattern for the years 2005 and 2015
4. Defining the ranking position of municipalities in each of the analyzed years for the particular SDM (SDM_{housing} , SDM_{tur})
5. Comparing the ranking positions of municipalities defined by each SDM (SDM_{housing} and SDM_{tur})
6. Comparing changes in the situation in a municipality over time based on SDM_{housing} and SDM_{tur}
7. Calculating the sequence correlation coefficient between SDM_{housing} and the supplemented SDM_{tur} measure
8. Classification of municipalities according to SDM value (SDM_{housing} and SDM_{tur}) using arithmetic mean and standard deviation

The research procedure was initiated with defining indicators characterizing each of the thematic areas. For the purposes of determining SDM_{housing} ; the number of apartments available for occupation per 1000 residents, area of apartments available for occupation per 1000 residents, average living area per apartment, average living area per resident, and the number of apartments per 1000 residents are the defined as indicators.

All indicators were considered stimulants without a veto threshold, which means that the municipalities achieving high values of the above presented indicators were assessed as the highest ranked units, representing the most favourable situation. The

aforementioned indicators were calculated based on the data collected from the Central Statistical Office.

For SDM_{tur} the following variables were adopted:

1. Baretje and Defert index—assessment of tourism development level (Baretje and Defert 1972)
2. Tourist accommodation density indicator—assessment of tourist accommodation saturation (Menges 1955)
3. Charvat index—assessment of the intensity of tourist traffic (Charvat and Cerny 1960)

These indexes were calculated according to formulas [1] (Kowalczyk 2002), [2] (Warszyńska and Jackowski 1978), and [3] (Lijewski et al. 2008).

$$Tf(t) = \frac{\text{number of beds in the area} \times 100}{\text{number of population in the area}} \quad (1)$$

$$W_{GBN} = \frac{\text{number of beds}}{\text{km}^2 \text{ of the area}} \quad (2)$$

$$T_{Ch} = \frac{\text{number of night accommodations sold} \times 100}{\text{number of local population}} \quad (3)$$

Due to the fact that the Local Data Bank ceased the publication of data on the number of overnight stays at the end of 2014, the values for 2015 were adopted as the arithmetic mean from the period 2012–2014. All indicators were considered equivalent stimulants without a veto threshold, which means that the municipalities achieving high values of the above presented indicators were assessed as the highest ranked units, representing the most favourable situation.

The unitarization of values of the characteristics adopted for the research was carried out according to the following formula:

$$Z_{jit} = \frac{X_{jit} - \min X_{jit}}{\max X_{jit} - \min X_{jit}} \quad (4)$$

where

x —value of the characteristic

j —variable j , where $j = (1, \dots, p)$

i —object (municipality), where $i = (1, \dots, N)$

N for $SDM_{housing} = 117$

N for $SDM_{tur} = 103$

t —time (year), where $t = (2005, 2015)$

It allowed obtaining values within the range [0, 1]. For each SDM all variables adopted for the study were stimulants and thus the need for unifying them (preference function) did not occur. SDM was calculated using the standardized sum

method (Kowalewski 2002). SDM value for the analyzed municipalities was calculated using formula (5):

$$SMR_{it} = \frac{1}{p} \sum_{j=1}^p z_{ijt} \quad (i = 1, \dots, N) \quad (t = 2005, 2015) \quad (5)$$

where

SDM—value of non-model synthetic measure in an object (municipality) and
 p —number of characteristics

In the final phase, the analyzed municipalities were ranked in terms of the position determined by the analyzed SDM. The strength of correlation between the level of tourist function and housing function performed by the municipalities was analyzed. In order to calculate the discussed correlation, the ranking positions obtained based on SDM_{tur} were supplemented by assigning 14 municipalities, not included in SDM_{tur} , the same 111 ranking position (arithmetic mean of the subsequent positions from the set of the last positions [from 104 to 117]). Thus, equipotent sets of municipalities in terms of both studied measures were obtained. Correlation was calculated using the Spearman's rank correlation coefficient—the following formula was used (Sobczyk 2010):

$$r_s = 1 - \frac{6 \sum_{i=1}^N d_i^2}{N(N^2 - 1)} \quad (6)$$

where

d_{it} —determines differences between ranks (positions) of the corresponding individual SDM_{it} values.

The following scale was used to assess the strength of the correlation between variables (Sobczyk 2010):

- 0.00–0.30—weak dependence
- 0.31–0.60—moderate dependence
- 0.61–1.00—strong dependence

3 Research Results

The analyzed municipalities are significantly diversified in terms of demographics. It should be highlighted that among the municipalities linked with national parks, 11 have the status of urban municipalities, 31 the status of urban–rural municipalities and 75 the status of rural municipalities. In the group of urban municipalities, there

are two cities with county rights, i.e. Jelenia Góra and Świnoujście, and the largest community resides within their borders—87,000 people in 2005 and 81,000 people in 2015 in Jelenia Góra, whereas 41,000 people in both studied years in Świnoujście. In the first year of the study only six municipalities had the population exceeding 20,000 (except for the above mentioned), in the last year of the study this result was recorded in eight municipalities. In 2005, 22 municipalities recorded their population number within the range [10,000–20,000] and in 2015 26 municipalities, respectively. The municipalities populated with 5000–10,000 residents were the dominating ones—in the first year of the analysis their number was 58, whereas in the last year 52. In both analyzed years, the population number did not exceed 5000 residents in 29 municipalities.

The comparison of population figures in the first and last year of the study indicates that the population number was the same in 18 municipalities (the change did not exceed 1% of the value specific for the baseline year). In 54 units an increase was recorded, and in 45 the number of residents declined. Only in two analyzed municipalities the population number went down by above 10% of the specific value for the baseline year. Therefore, it can be concluded that a significant depopulation occurred only sporadically. Much more frequently a significant increase in population number was observed—the population of 15 municipalities went up by above 10% of the value specific for 2005. The situation of municipalities territorially linked with national parks adjacent to Warsaw and Poznań metropolises should be highlighted—their domination in the group of municipalities characterized by the largest increase in population clearly indicates the pressure exerted by these metropolises on the settlement function. The largest increase in the number of residents was recorded in the municipalities of Komorniki and Dopiewo (municipalities linked with Wielkopolska National Park, located in the vicinity of Poznań), where the number of residents has almost doubled. The aforementioned situation is of particular importance in terms of demand for residential housing.

The tourist function of the studied municipalities is highly diverse—as showed by SMD_{tur} values in the range [0.0–0.945] in 2005 and [0.0–0.731] in 2015 (see Table 1). It should be emphasized that 14 out of 117 analyzed municipalities did not show any tourism-related activities in public statistics—according to the indications presented in methodological comments they had zero measure value and 111 position. Having adopted the interpretation of Baretje and Defert index value according to M. Boyer scale, among 103 municipalities presenting tourism related data, tourist activity was practically non-existent in 59 municipalities in the first year of the study and in 63 municipalities in the last year of the study. In these municipalities, the value of the discussed index did not exceed 4 units—very low SMD_{tur} values are the consequence of the above-mentioned fact. The absolute growth of SMD_{tur} value, calculated as the difference between SMD_{tur} value in 2015 (analyzed) and in 2005 (baseline year) shows that in the set of 103 municipalities, 56 recorded an increase in the analyzed measure value, whereas 31 a decrease. No changes were recorded in 16 municipalities. It should be emphasized that the highest absolute growth in the value of the studied measure was recorded by one of the three leaders—the municipality of Karpacz (Karkonosze NP, mountainous area). It is

Table 1 SDM_{it} of the tourist function and housing function covering municipalities territorially linked with national parks—data for 2005 and 2015

Name of the municipality	Housing function				Tourist function			
	2005		2015		2005		2015	
	SDM	<i>P</i>	SDM	<i>P</i>	SDM	<i>P</i>	SDM	<i>P</i>
Adamów (2)	0.143	76	0.185	80	0	111	0	111
Bargłów Kościelny (2)	0.102	108	0.155	104	0	111	0	111
Białowieża (2)	0.247	24	0.368	22	0.069	11	0.117	11
Bieliny (2)	0.119	95	0.163	95	0.000	91	0.001	89
Bierzwnik (2)	0.112	99	0.167	91	0	111	0	111
Bodzentyn (3)	0.122	90	0.197	73	0.007	50	0.006	53
Brochów (2)	0.209	41	0.178	85	0.000	91	0.000	94
Brusy (3)	0.132	82	0.234	56	0.005	57	0.003	75
Bukowina Tatrzańska (2)	0.228	30	0.267	41	0.034	17	0.118	10
Chojnice (2)	0.169	55	0.268	40	0.031	19	0.023	27
Choroszcz (3)	0.281	17	0.427	14	0.001	79	0.006	55
Cisna (2)	0.230	29	0.497	10	0.135	8	0.125	9
Czarna (2)	0.100	110	0.194	75	0.006	53	0.042	17
Człopa (3)	0.095	112	0.114	116	0.000	91	0.001	86
Czorsztyn (2)	0.224	32	0.276	39	0.022	25	0.030	22
Czosnów (2)	0.348	11	0.436	13	0.002	75	0.002	80
Dąbrowa Białostocka (3)	0.115	97	0.162	96	0.000	89	0.000	92
Dębowiec (2)	0.104	106	0.137	109	0.000	87	0.000	91
Dobiegniew (3)	0.111	100	0.159	98	0.001	84	0.009	42
Dopiewo (2)	0.642	1	0.699	1	0	111	0	111
Drawno (3)	0.096	111	0.128	112	0.004	59	0.005	63
Dukla (3)	0.111	101	0.164	94	0.002	76	0.003	77
Giby (2)	0.259	22	0.328	26	0.019	26	0.033	19
Główczyce (2)	0.046	117	0.080	117	0.000	91	0.001	88
Goniądz (3)	0.175	54	0.249	49	0.009	46	0.010	40
Górno (2)	0.167	58	0.241	53	0.011	43	0.012	38
Górzycza (2)	0.090	114	0.147	107	0.003	64	0.004	69
Grajewo (2)	0.124	88	0.155	102	0.000	91	0.000	99
Hańsk (2)	0.124	89	0.212	66	0	111	0	111
Izabelin (2)	0.465	6	0.544	6	0	111	0	111
Jabłonka (2)	0.236	27	0.288	35	0.002	70	0.004	72
Jaświły (2)	0.187	52	0.224	60	0.000	90	0.000	96
Jedwabne (3)	0.156	67	0.179	84	0.001	83	0.000	101
Jelenia Góra (1)	0.148	69	0.191	76	0.016	30	0.019	31
Jerzmanowice-Przegonia (2)	0.146	72	0.204	68	0.003	67	0.006	54
Józefów (3)	0.119	93	0.181	83	0.003	65	0.005	61
Kamienica (2)	0.105	104	0.188	78	0.008	47	0.003	74
Kampinos (2)	0.207	43	0.263	44	0.000	91	0.002	83
Karpacz (1)	0.391	8	0.549	5	0.441	2	0.682	2
Kobylin-Borzmy (2)	0.244	25	0.321	28	0	111	0	111

(continued)

Table 1 (continued)

Name of the municipality	Housing function				Tourist function			
	2005		2015		2005		2015	
	SDM	<i>P</i>	SDM	<i>P</i>	SDM	<i>P</i>	SDM	<i>P</i>
Komorniki (2)	0.474	5	0.601	4	0.002	71	0.006	56
Kostrzyn nad Odrą (1)	0.145	75	0.151	106	0.004	62	0.007	50
Kościelisko (2)	0.279	18	0.410	16	0.043	14	0.072	15
Kowary (1)	0.101	109	0.123	114	0.014	36	0.008	44
Krasnopol (2)	0.236	26	0.304	31	0.005	56	0.003	78
Krempna (2)	0.131	83	0.128	113	0.013	37	0.006	52
Krościenko nad Dunajcem (2)	0.217	36	0.263	45	0.031	20	0.016	32
Krzyż Wielkopolski (3)	0.110	102	0.155	103	0.000	91	0.001	90
Kudowa-Zdrój (1)	0.142	78	0.168	90	0.062	13	0.135	8
Leoncin (2)	0.257	23	0.323	27	0	111	0	111
Leszno (2)	0.407	7	0.402	20	0.000	91	0.000	100
Lewin Kłodzki (2)	0.167	56	0.205	67	0.011	42	0.025	24
Lipinki (2)	0.133	81	0.166	92	0	111	0	111
Lipnica Wielka (2)	0.162	61	0.223	61	0.001	78	0.000	101
Lipsk (3)	0.119	96	0.196	74	0	111	0	111
Ludwin (2)	0.147	70	0.300	33	0.006	55	0.007	51
Lutowiska (2)	0.082	115	0.174	86	0.067	12	0.108	13
Łapsze Niżne (2)	0.192	49	0.253	47	0.026	23	0.035	18
Łapy (3)	0.129	84	0.181	82	0.001	86	0.000	97
Łączna (2)	0.106	103	0.160	97	0.006	52	0.000	101
Łeba (1)	0.334	12	0.505	9	0.945	1	0.731	1
Łomianki (3)	0.530	3	0.622	3	0.003	69	0.003	79
Maśłów (2)	0.207	42	0.304	32	0.016	32	0.020	29
Międzyzdroje (3)	0.505	4	0.515	8	0.325	3	0.313	3
Mosina (3)	0.224	33	0.404	19	0.003	66	0.005	65
Mszana Dolna (2)	0.122	91	0.182	81	0.008	48	0.007	49
Narewka (2)	0.306	16	0.407	17	0.002	72	0.005	58
Niedźwiedź (2)	0.138	79	0.215	63	0.013	38	0.004	66
Nowa Słupia (2)	0.092	113	0.158	99	0.006	54	0.009	41
Nowinka (2)	0.272	20	0.290	34	0.011	44	0.025	25
Nowy Dwór (2)	0.103	107	0.166	93	0	111	0	111
Nowy Targ (2)	0.162	62	0.214	64	0.005	58	0.004	70
Nowy Żmigród (2)	0.124	86	0.135	110	0.000	88	0.001	85
Ochotnica Dolna (2)	0.219	35	0.244	52	0.015	34	0.008	46
Osiek Jasielski (2)	0.146	73	0.140	108	0	111	0	111
Piechowice (1)	0.157	65	0.199	72	0.030	21	0.023	26
Podgórzyn (2)	0.227	31	0.265	43	0.086	9	0.051	16
Poronin (2)	0.264	21	0.331	24	0.017	29	0.083	14

(continued)

Table 1 (continued)

Name of the municipality	Housing function				Tourist function			
	2005		2015		2005		2015	
	SDM	P	SDM	P	SDM	P	SDM	P
Puszczykowo (1)	0.357	10	0.387	21	0.011	40	0.013	37
Radków (3)	0.120	92	0.154	105	0.011	41	0.030	20
Radziłów (2)	0.124	87	0.168	89	0	111	0	111
Rajgród (3)	0.156	66	0.216	62	0.029	22	0.027	23
Sękowa (2)	0.187	51	0.214	65	0.001	82	0.005	60
Skala (3)	0.210	40	0.276	38	0.003	68	0.003	73
Słońsk (2)	0.162	60	0.235	55	0.001	80	0.005	59
Smóldzino (2)	0.137	80	0.189	77	0.004	60	0.006	57
Sokoły (2)	0.189	50	0.226	58	0.001	85	0.000	95
Sosnowica (2)	0.151	68	0.199	71	0.015	33	0.016	33
Stare Babice (2)	0.557	2	0.678	2	0.000	91	0.004	67
Stary Brus (2)	0.142	77	0.254	46	0.001	77	0.001	84
Stęszew (3)	0.213	38	0.317	29	0.016	31	0.009	43
Suchowola (3)	0.195	47	0.225	59	0.000	91	0.001	87
Sułoszowa (2)	0.147	71	0.172	87	0.002	73	0.005	64
Suraż (3)	0.159	63	0.252	48	0.007	51	0.005	62
Suwałki (2)	0.312	15	0.438	12	0.032	18	0.015	36
Szczawnica (3)	0.202	45	0.281	37	0.136	7	0.147	7
Szczytna (3)	0.128	85	0.169	88	0.015	35	0.007	48
Szklarska Poręba (1)	0.213	39	0.454	11	0.248	4	0.206	5
Sztabin (2)	0.145	74	0.187	79	0.000	91	0.000	98
Świnoujście (1)	0.186	53	0.265	42	0.083	10	0.114	12
Trzciannę (2)	0.167	57	0.244	51	0.000	91	0.004	68
Tuczno (3)	0.104	105	0.121	115	0.017	28	0.008	45
Turośń Kościelna (2)	0.374	9	0.411	15	0.000	91	0.000	93
Tykocin (3)	0.196	46	0.239	54	0.004	61	0.008	47
Urszulin (2)	0.207	44	0.337	23	0.007	49	0.002	82
Ustka (2)	0.220	34	0.407	18	0.204	5	0.168	6
Ustrzyki Dolne (3)	0.068	116	0.130	111	0.009	45	0.015	35
Wicko (2)	0.157	64	0.203	69	0.040	16	0.030	21
Wielka Wieś (2)	0.324	14	0.516	7	0.018	27	0.019	30
Wierzbica (2)	0.113	98	0.158	100	0	111	0	111
Witnica (3)	0.119	94	0.157	101	0.003	63	0.003	76
Wizna (2)	0.194	48	0.234	57	0.002	74	0.004	71
Wolin (3)	0.231	28	0.249	50	0.023	24	0.010	39
Zakopane (1)	0.217	37	0.331	25	0.159	6	0.209	4
Zamość (2)	0.278	19	0.310	30	0.001	81	0.002	81

(continued)

Table 1 (continued)

Name of the municipality	Housing function				Tourist function			
	2005		2015		2005		2015	
	SDM	<i>P</i>	SDM	<i>P</i>	SDM	<i>P</i>	SDM	<i>P</i>
Zawoja (2)	0.329	13	0.286	36	0.040	15	0.022	28
Zwierzyniec (3)	0.165	59	0.203	70	0.012	39	0.015	34

Notes:

- (1) Urban municipality, (2) rural municipality, and (3) urban–rural municipality
- SDM—Synthetic development measure value
- *P*—The ranking position based on SDM
- Positions from 1 to 10 are marked in grey and refer to the highest development level of the analyzed phenomenon among the municipalities covered by the research

Source: Author's compilation based on the Central Statistical Office data

also interesting to observe that the leader, i.e. Łeba Municipality (Słowiński PN, coastal area), recorded the highest absolute decline in SMD_{tur} value, however, despite that it did not lose the position held so far. The above observations indicate that the distance separating Łeba from other municipalities remains significant, but in the future it seems realistic that it will lose its ranking position for the benefit of Karpacz. Therefore, it can be anticipated that the municipality linked with the mountainous national park will be more willingly chosen by tourists than the coastal area. In both analyzed years, the dominant position was held by the municipalities located in both coastal and mountainous areas. Among them there were tourist centres recognized not only in Poland, but also abroad. The stability of leaders is crucial here—in both analyzed years, the first three positions were taken by: Łeba, Karpacz, and Międzyzdroje, respectively.

The housing function of the analyzed municipalities is—similarly to the tourism function—highly diverse. $SMD_{housing}$ values presented the range [0.046–0.642] in 2005 and [0.080–0.699] in 2015 (see Table 1). The absolute growth of $SMD_{housing}$ value, calculated as the difference between $SMD_{housing}$ values in 2015 (analyzed) and 2005 (baseline year) shows that in the set covering 117 municipalities as many as 111 recorded an increase of the analyzed value, whereas only 6 a decline. The above indicates that the vast majority of municipalities linked with national parks were characterized by development in terms of their housing function. The highest absolute growth in the analyzed measure value was recorded by Cisna municipality, ranked among the top ten leaders regarding tourist function. It should be emphasized that in the majority of municipalities covered by the analysis, not only the number of apartments was larger, but also the comfort of living was improved (higher average usable floor area per capita).

In order to measure the correlation intensity between the level of tourist function performed by municipalities and the housing function, Spearman's rank correlation coefficient was calculated between the ranking positions assigned based on the value of $SMD_{housing}$ and SMD_{tur} . The set of SMD_{tur} positions (the measure calculated for 103 municipalities) was supplemented in accordance with the indications presented in the methodology. The results of correlation confirm a strong positive dependence

between the studied functions. In 2005, the value of the analyzed coefficient was 0.7345 and a decade later it declined to the level of 0.6904 units. It can be assumed that the development of housing function in popular tourist municipalities is a derivative of the natural values appreciated by tourists and thus the attractiveness of a municipality. The impact of tourist function on the local labour market is highly significant—the employment opportunity remains one of the important variables determining the choice of the place of residence.

4 Conclusions

An important result of the conducted research is determining that the municipalities territorially linked with national parks are significantly diversified in demographic terms—it directly affects the demand for real estate meeting the housing needs. These municipalities also differ in terms of their status—there are 11 urban municipalities in the analyzed group (i.e. municipalities representing a city), 31 urban–rural municipalities (i.e. municipalities covering a city and villages) and 75 rural municipalities (i.e. municipalities that do not include a city in their territory). The obtained results allow concluding that despite the above-mentioned differences almost all territorial units linked with national parks, in the period 2005–2015, were characterized by the development of residential real estate. It should be clearly emphasized that in 95% of the analyzed municipalities higher synthetic measure value of the housing function development was observed. It allows adopting the initial research hypothesis and concluding that the proximity of a national park stimulates the housing function. The above can also be considered an expression of public appreciation regarding environment quality in the place of residence and the perception of the highest rank protected areas' proximity in terms of an advantage for locating real estate meeting the housing needs.

It is also worth adding that in the majority of the analyzed municipalities the comfort of living measured by an increase in the average living space per capita, was improved, which can be considered the symptom of higher life quality of the local community. The carried out analyses indicate a strong, positive correlation between the tourist function and the housing function in the studied municipalities.

It can, therefore, be summed up that the attractive tourist areas were assessed as attractive places for permanent residence. It is of great importance to observe that the phenomenon of major depopulation occurred sporadically in the analyzed municipalities, and simultaneously in as many as 15 studied units their population increased by above 10% of the baseline year population. In view of the widespread decline in the number of residents in Poland, the aforementioned facts should be assessed as highly positive. The research results show that the proximity of national parks is perceived as good neighbourhood in Poland. Thus, it is difficult to consider the changes in the principles of spatial management referring to area forms of nature

protection as negatively affecting local development or life quality of the local community. The research results seem to confirm that the protected areas do not limit either economic activity or local development.

References

- Bal-Domańska, B. (2016a). Propozycja procedury oceny zrównoważonego rozwoju w układzie presja-stan-reakcja w ujęciu przestrzenny [The proposal of sustainable development assessment procedure from the perspective of pressure – State – Reaction in the spatial arrangement]. In K. Jajuga & M. Walesiak (Eds.), *Taksonomia, Klasyfikacja i analiza danych – Teoria i zastosowania* [Taxonomy, classification and data analysis – Theory and applications]. *Research papers of Wrocław University of Economics* No. 427, Wrocław (pp. 11–19).
- Bal-Domańska, B. (2016b). Ocena zrównoważonego rozwoju Polski w układzie powiatów w ujęciu przyczyna–stan–reakcja. Przypadek bezrobocie–ubóstwo–aktywność gospodarcza [The assessment of sustainable development of Poland in the system of counties from the perspective of cause–state–reaction. The case of unemployment– Poverty–economic activity]. In M. Markowska, D. Głuszczyk, & B. Bal-Domańska (Eds.), *Gospodarka regionalna w teorii i praktyce* [regional economy in theory and practice]. *Research papers of Wrocław University of Economics* No. 433, Wrocław (pp. 9–18).
- Baretje, R., & Defert, P. (1972). *Aspects économiques du tourisme*. Paris.
- Bennett, N. J., & Dearden, P. (2014). Why local people do not support conservation: Community perceptions of marine protected area livelihood impacts, governance and management in Thailand. *Marine Policy*, 44, 107–116.
- Brooks, T. M., Mittermeier, R. A., da Fonseca, G. A. B., Gerlach, J., Hoffmann, M., Lamoreux, J. F., Mittermeier, C. C., Pilgrim, J. D., & Rodrigues, A. S. L. (2006). Global biodiversity conservation priorities. *Science*, 313(5783), 58–61. <https://doi.org/10.1126/science.1127609>.
- Charvat, J., & Cerny, B. (1960). Untraditionelle Elemente bei der Erfassung der Fernverkehrsintensität. *Zeitschrift für den Fremdenverkehr*, 3.
- Gray, C. L., Hill, S. L., Newbold, T., Hudson, L. N., Borger, L., Contu, S., Hoskins, A. J., Ferrier, S., Purvis, A., & Scharlemann, J. P. W. (2016). Local biodiversity is higher inside than outside terrestrial protected areas worldwide. *Nature Communications*, 7(2016), 12306. <https://doi.org/10.1038/ncomms12306>.
- Hellwig, Z. (1968). Zastosowanie metody taksonomicznej do typologicznego podziału krajów ze względu na poziom ich rozwoju oraz zasoby i strukturę wykwalifikowanych kadr [The application of taxonomic method in the typological division of countries regarding their development level and resources and structure of qualified personnel]. *Statistical Review*, 4, 307–327.
- Kowalczyk, A. (2002). *Geografia turystyki* [Geography of tourism]. Warsaw: PWN Publishers.
- Kowalewski, G. (2002). Metody porządkowania liniowego [Linear ordering methods]. In J. Dziechciarz (Ed.), *Ekonometria* [Econometrics] (pp. 287–304). Wrocław: University of Economics in Wrocław Press.
- Krajewski, P. (2017). Assessing changes in high-value landscape – Case study of the municipality of Sobotka in Poland. *Polish Journal of Environmental Studies*, 26(6), 2603–2610.
- Kukuła, K. (2012). Propozycja budowy rankingu obiektów z wykorzystaniem cech ilościowych oraz jakościowych [Proposal of ranking construction on the basis of quantitative and qualitative variables]. *Metody ilościowe w badaniach ekonomicznych* [Quantitative Methods in Economic Research], 13(1), 5–16.
- Kukuła, K. (2014). Zero unitarisation method as a tool in ranking research. *Economic Science for Rural Development*, 36, 95–100.

- Kukuła, K., & Luty, L. (2017). Jeszcze o procedurze wyboru metody porządkowania liniowego [Once more about the selection procedure for the linear ordering method]. *Statistical Review*, 64 (2), 163–176.
- Kulczyk-Dynowska, A. (2014). *The spatial and financial aspects of protected areas using the example of the Babia Góra National Park, Hradec Economic Days 2014*, Economic Development and Management of Regions, Peer-Reviewed Conference Proceedings, Part IV, Univerzita Hradec Kralove, Fakulta informatiky a management, pp. 108–118.
- Kulczyk-Dynowska, A., (2015). *Space protected through competition as exemplified by the Tatra National Park, Hradec Economic Days 2015*, Economic Development and Management of Regions, Peer-Reviewed Conference Proceedings, Part IV, Univerzita Hradec Kralove, Fakulta informatiky a management, pp. 322–330.
- Lijewski, T., Mikułowski, B., & Wyrzykowski, J. (2008). *Geografia turystyki Polski [Polish tourism geography]*. Warsaw: PWE Publishers.
- Malina, A. (2008). Analiza przestrzennego zróżnicowania poziomu rozwoju społeczno-gospodarczego powiatów województwa małopolskiego w latach 2000–2004 [The analysis of spatial diversification of socio-economic development level of counties in Małopolskie region in the years 2000–2004]. *Research Journals of Cracow University of Economics*, 797, 5–22. Cracow University of Economics Press.
- Manly, B. F. J., & Navarro Alberto, J. A. (2017). *Multivariate statistical methods*. Boca Raton: CRC Press, Taylor& Francis Group.
- Marković, I., Pejnović, D., & Boranić Živoder, S. (2015). *Influence of tourism development on sustainability of local communities in natural protected areas, case study of Plitvice Lakes National Park*. Conference: International Critical Tourism Studies Conference V, At Sarajevo, Bosnia & Herzegovina. <https://doi.org/10.13140/2.1.3470.6241>.
- Marti, R., & Reinelt, G. (2011). *The linear ordering problem, exact and heuristic methods in combinatorial optimization*. Berlin: Springer.
- Mayer, M. (2014). Can nature-based tourism benefits compensate for the costs of national parks? A study of the Bavarian Forest National Park, Germany. *Journal of Sustainable Tourism*, 22(4), 561–583. <https://doi.org/10.1080/09669582.2013.871020>.
- Menges, G. (1955). *Methoden und Probleme der deutschen Fremdenverkehrsstatistik*, Schriftenreihe des Instituts für Fremdenverkehrswissenschaft an der I.W. Frankfurt/M.: Goethe Universität.
- Mose, I. (2016). *Protected areas and regional development in Europe: Towards a new model for the 21st century*. Routledge.
- Pluciennik, M., Heldak, M., Werner, E., Szczepański, J., & Patrzalek, C. (2016). Using the laser technology in designing land use, landscape and landscape ecology. In *Proceedings of the 17th International Symposium on Landscape Ecology, Nitra, Slovakia* (pp. 162–167). Bratislava, Branch Nitra: Institute of Landscape Ecology, Slovak Academy of Sciences.
- Potocki, J., Kachniarz, M., & Piepiora, Z., (2014). Sudetes – Cross-border region? In: P. Jedlička (Ed.), *The International Conference hradec economic days 2014*. Economic development and management of regions, Hradec Králové, February 4 and 5, 2014. Peer-Reviewed Conference Proceedings Part V (pp. 191–200). Czech Republic: Press Gaudeamus, the University of Hradec Králové. ISBN 978-80-74-35-370-3.
- Przybyła, K., & Kulczyk-Dynowska, A. (2017). *Transformations of tourist functions in urban areas of the karkonosze mountains*. *IOP Conference Series: Materials Science and Engineering*, 245(2017), 072001. <https://doi.org/10.1088/1757-899X/245/7/072001>.
- Schott, J., Kalatas, T., Nercissians E., Barkmann J., & Vakhtang S. (2016). *The impact of protected areas on local livelihoods in the South Caucasus* (pp. 3–25). Discussion Paper. Leibniz: Leibniz Institute of Agricultural Development in Transition Economies. No. 152. <http://hdl.handle.net/10419/129108>
- Sobczyk, M. (2010). *Statystyka opisowa [Descriptive statistics]*. Warsaw: C.H. Beck Publishers.

- Stokke, K. B., & Haukeland, J. H. (2017). Balancing tourism development and nature protection across national park borders—a case study of a coastal protected area in Norway. *Journal of Environmental Planning and Management*, 61(1), 1–15.
- Strahl, D. (1978). Propozycja konstrukcji miary syntetycznej [The proposal of statistical measure construction]. *Statistical Review*, 25(2), 205–215.
- Szewrański, S., Kazak, J., Żmuda, R., & Wawer, R. (2017). Indicator-based assessment for soil resource management in the Wrocław larger urban zone. *Polish Journal of Environmental Studies*, 26(5), 2239–2248.
- Walesiak, M. (2006). *Uogólniona miara odległości w statystycznej analizie wielowymiarowej* [Generalized distance measure in a statistical multidimensional analysis]. Wrocław: University of Economics in Wrocław Press.
- Warszyńska, J., & Jackowski, A. (1978). *Podstawy geografii turystyki* [Basics in tourism geography]. Warsaw: PWN Publishers.
- Wells, M., & Brandon, K. (1992). *People and parks: Linking protected area management with local communities*. World Bank.

Contemporary Trade Regionalism on the Example of Free Trade Area of the Asia-Pacific (FTAAP)



Sebastian Bobowski

Abstract The Free Trade Area of the Asia-Pacific (FTAAP) is a trade framework proposed during the meeting of Asia-Pacific Economic Cooperation (APEC) in Beijing in 2014, however, proposal was given initially in Hanoi in 2006. It may be considered as manifestation of mega-regionalism in trade, an attempt to set the rules of trade in the twenty-first century at the expense of multilateralism under the auspices of WTO, but also to overcome noodle bowl effect in the Asia-Pacific region. The main objective of the chapter is to study the project of FTAAP, using the concepts of trade regionalism and mega-regionalism, its genesis, economic, and political implications. As indicated by author, next to geographic scope of FTAAP, there is a concern resulting of the fact, that the concept of creating a free trade zone, a de facto mega-regional grouping, does not fully coincide with the concept of regional liberalization based on regulations promoted over the years by APEC and WTO rules. The same applies to the concept of open regionalism underlying the APEC. Author concluded that a hybrid approach and multitiered system might be a solution to enable individual states to proceed with convergence toward higher standards and gains, considering diversity of APEC member states. Alternatively, FTAAP could be made as an evolutionary agreement, while not excluding the possibility of the US membership inside a single framework with China.

Keywords FTAAP · APEC · Trade regionalism

1 Introduction

The Free Trade Area of the Asia-Pacific (FTAAP) is a trade bloc considered by 21 member states of Asia-Pacific Economic Cooperation—forum of trade regionalism, involving, among others, China, Japan, Canada, and the USA. Thus, if being

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successfully established, FTAAP would be the largest framework of trade regionalism in the world, able to overshadow those already signed/negotiated, such as Comprehensive Economic and Trade Agreement (CETA), Trans-Pacific Partnership (TPP), EU-Japan Economic Partnership Agreement (JEFTA), Regional Comprehensive Economic Partnership (RCEP), and Trans-Atlantic Trade and Investment Partnership (TTIP). Its size, however, should be considered in terms of both opportunity and threat because reaching an agreement and coexistence of two natural economic rivals at the global stage—China and the USA—inside one single bloc would be a challenge.

The main objective of this chapter is to study the project of FTAAP, using the concepts of trade regionalism and mega-regionalism, its genesis, economic, and political implications. The added value of this chapter is an in-depth study of the phenomenon of trade regionalism, taking into account contemporary trends and challenges in creating mega-regional structures. The structure of this chapter is as follows: theoretical frameworks of trade regionalism, including mega-regionalism, APEC as regional trade forum, economic potential of FTAAP, and scenarios for FTAAP. The following research methods were used: statistical and descriptive analysis, comparative, and critical studies.

2 Bilateralism, Inter-regionalism, Mega-Regionalism in Trade: Explaining the Conceptual Intricacies

In the literature, there are usually four types of trade regionalism distinguished, namely regional trade forum, regional trade cooperation not sanctioned by treaty, regional trade arrangements (RTAs) sanctioned by treaty, and economic partnership arrangements (Hamanaka 2010; Ravenhill 2008; Bobowski 2017, 2018). As of May 01, 2018, 673 notifications of RTAs (covering goods, services, and accessions separately) had been received by the GATT/WTO, of which 459 were in force. Cumulative number of physical RTAs in force was 287. Most of ratifications were made under Article 24 of GATT 1947 or GATT 1994, other sources of law were Article 5 of GATS and Enabling Clause (WTO 2018). Rapidly growing number of newly established trade agreements contributed to the so-called noodle bowl effect in many regions of the world, starting with East Asia and Latin America. This effect used to be studied through the prism of rising complexity of trade standards, overlapping and colliding rules of origin in bilateral merchandise flows. Therefore, expansionary bilateralism in trade after 2000, encouraged by non-satisfactory pace of multilateral negotiations at the level of WTO, inspired discussions about prospective consolidation of bilaterals in the name of harmonization of rules in the global trade regime to prevent from its further fragmentation (Bhagwati 2008).

What distinguishes mega-regionals, i.e., Comprehensive Economic and Trade Agreement (CETA), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), Free Trade Area of Asia-Pacific (FTAAP), EU-Japan

Economic Partnership Agreement (JEFTA), Regional Comprehensive Economic Partnership (RCEP), and Trans-Atlantic Trade and Investment Partnership (TTIP) from the other RTAs is the geographical coverage and the size of internal market in terms of trade volume and GDP. In this context, mega-regionalism in trade has much in common with inter-regionalism as a concept. Namely, both mega- and inter-regional trade agreements may account for mass shares in global exports and GDP, whereas mega-regionals may transform into inter-regionals, as a consequence of replacement of the bloc-country format with the bloc-bloc format—for instance, mega-regional agreement between EU and Canada (CETA) could be enlarged to inter-regional agreement between EU and NAFTA (Canada, Mexico, and the USA), if the latter grouping would get such a mandate in the future from its members.

On the other hand, there is no clear distinction between mega-regionalism and bilateralism in the literature, because some agreements concluded between the blocs such as EU, EFTA, or ASEAN with the third countries are termed by Aggarwal and Fogarty (2004), Camroux (2006), Meissner (2016) as bilaterals (bloc-country), not necessarily mega-regionals. Therefore, categories of bilateral, mega-regional, and inter-regional trade agreements overlap to some extent, because mega-regionalism assumes interactions between the countries or regions, whereas inter-regionalism—between the regions, that may be studied either in political, economic, social, or geographical terms. Then, both Latin America, Central Europe, East Asia, or Asia-Pacific, as well as ASEAN, NAFTA, MERCOSUR, or EU can be regarded as regions nowadays, however, region as a party of any trade talks would be a grouping, more or less formal bloc of states or organization, not just a geographical representation of a given part of the world. Any agreement signed by the region with the third country, such as ASEAN Plus FTA or EU Plus FTA could be defined as mega-regional, however, what may be discussed here is the importance of a given bloc in the world trade, FDI flows, or global/regional value chains. On the other hand, as long as there are no agreed thresholds and the category of importance is relative, any FTA of that kind, e.g., EU—Singapore, ASEAN—Japan, or ASEAN—China, may be defined as mega-regional, because there are regional or global economic power/powers or important hub/hubs in the regional or global value chains involved. Thus, there is no contradiction in recognizing some of mega-regionals as a set of bilaterals, as well as some inter-regionals as mega-regionals. It seems that the terminology is still somewhat behind the dynamics of the phenomenon of trade regionalism. FTAAP fits into concept of mega-regionalism in trade due to its economic potential and formula of trade negotiations, namely, talks would involve national actors instead of any bloc or organization of states as the party. To date, 3 mega-regionals were signed, namely, CETA (October 30, 2016), CPTPP (March 08, 2018) and JEFTA (July 17, 2018), all of them still ahead of ratification, RCEP and TTIP are negotiated, while FTAAP is considered. Among the presented mega-regionals FTAAP, embracing 21 APEC member states, would be the largest trade bloc in terms of the shares in the global GDP—59.17%, and the second largest in terms of the shares in the global exports—45.48%, thus, slightly less than TTIP. Interestingly, mega-regionals' shares in the global GDP do not necessarily translate into the shares in the global exports, as it looks in case of RCEP, whereas both CETA

and JEFTA would account for 37–38% of the global exports, while making relatively lower contribution to global GDP.

3 Asia-Pacific Economic Cooperation (APEC) and Trade Regionalism

APEC was established in 1989 as regional trade framework, at the initiative of the Japanese Ministry of Trade and Industry (MITI) and the Australian Department of Foreign Affairs and Trade (DFAT). The mission statement of APEC is to build a dynamic and harmonious community by enhancing free and open trade and investment flows, regional economic integration, economic and technical cooperation, and sustainable business environment. Importantly, MITI insisted on the inclusion of the USA to influence on the regionalism processes in the Pacific sphere, appreciating the economic context of the US membership, contrary to diplomatic one.

Interestingly, at the beginning of the twenty-first century APEC started to put more and more emphasis on security issues, mainly because of the consequences of the terrorist attack in the USA on September 11, 2001. On the other hand, attention should be paid to the fact, that a number of documents are signed by “economic leaders”, and not “leaders” of APEC member states, which emphasizes the special interest of the forum in economic issues. APEC has 21 member states, namely Australia, Brunei Darussalam, Canada, Indonesia, Japan, Malaysia, New Zealand, the Philippines, Republic of Korea, Singapore, Thailand, and the USA (founding members in 1989), China, Chinese Taipei, and Hong Kong (joined in 1991), Mexico and Papua New Guinea (joined in 1993), Chile (joined in 1994), Peru, Russia, and Vietnam (joined in 1998). Numerous countries and territories, including Bangladesh, Cambodia, Costa Rica, Ecuador, Guam, India, Lao PDR, Macau, Mongolia, Pakistan, Panama, and Sri Lanka, applied for membership, however, since 1998 APEC leaders did not reach consensus in regard of further enlargement of the grouping. The European Commission (EC) requested observer status, whereas France demanded the status of a member due to territorial affiliations in the Asia-Pacific region. The USA unequivocally opposed to the formal involvement of European states, being afraid of erosion of its own influences. To date, however, only three organizations obtained a status of observer: the Association of Southeast Asian Nations (ASEAN) Secretariat, the Pacific Economic Cooperation Council (PECC), and the Pacific Islands Forum (PIF) Secretariat.

APEC used to be recognized as manifestation of open regionalism, attributes of which were defined by APEC Eminent Persons Group in 1994; they were as follows: maximization of possible scope of unilateral liberalization, further reduction of barriers in trade with third countries, accompanied by internal liberalization based on the MFN clause, extension of regional liberalization of trade and investment policy to third countries at unilateral basis or under mutual benefits, either conditionally or unconditionally (APEC 1994). Such nonexclusive multilateral

agreements, open to the accession of new member states, should comply fully with Article 24 of GATT, while not evolving into competing groupings.

At the sixth APEC Summit in Bogor (Indonesia) on November 16, 1994, the so-called Bogor goals were agreed, according to which free and open trade and investment regime in the Asia-Pacific region will be established by 2020 at the latest, with a limit date of 2010 for developed members. In subsequent years, the mechanisms of achieving goals from Bogor, as well as their adaptation to the changing international conditions were discussed. For instance, at the seventh APEC Summit in Osaka (Japan) on November 18–19, 1995, leaders approved Osaka Action Plan on the liberalization of trade and investment flows, as well as technological and sectoral cooperation, business facilities, at the eighth APEC Summit in Subic (Philippines) on November 24–25, 1996, the APEC Action Plan for the advancement of liberalization of trade and investment flows was agreed, in the following year in Vancouver (Canada) on November 24–25, the strategy of liberalization of 15 sectors of the economy within the so-called early voluntary sectoral liberalization (EVSL) was signed.

As a result of the Asian financial crisis 1997–98, newly established framework of ASEAN Plus Three (10 ASEAN member states plus China, Japan, and Republic of Korea) seized the initiative in the field of financial and economic cooperation in East Asia, marginalizing to some extent the importance of APEC as an economic forum in this part of the world. Consequently, APEC leaders marginalized the agenda for trade and investment cooperation until 2005. At the 17th APEC Summit in Busan (Republic of Korea) organized on November 18–19, 2005, the so-called Busan Roadmap was adopted to set directions of joint and individual projects of APEC members to promote a multilateral trading system based on high-quality regional trade agreements (RTA). In 2008, APEC Committee on Trade and Investment (CTI) published a set of 15 chapters of model solutions in the field of trade and customs facilitation. The guidelines were designed to assist member states in RTAs/FTAs negotiations in order to maximize benefits and avoid possible regulatory conflicts between individual agreements.

In 2009, two rounds of the Trade Policy Dialogue (TPD) were held at the APEC forum, the subject of which was the Asia-Pacific Free Trade Area (FTAAP), which will ultimately constitute the pillar of economic integration of the member states. The subject of the discussion were the potential paths of establishing FTAAP, for instance, through the merger of regional trade agreements, which involve member states, based on a convergence and divergence protocol, extending the negotiation agenda with new issues arising from the challenges of the twenty-first century economy, preparing a schedule of activities at the level of the APEC Business Advisory Council (ABAC). At the 21st APEC Summit in Singapore in November 2009 Australia, China, New Zealand, and the Republic of Korea submitted their own report on the economic implications of FTAAP. It reviewed regional trade agreements (RTAs), which involve APEC members, formulating appropriate recommendations regarding the desired shape of FTAAP based on an analysis of its implications using the computable general equilibrium (CGE) modeling (static, dynamic, and capital accumulation). An important postulate was the development

of competences of APEC developing countries in the scope of negotiating RTA, which was also noticed by CTI. The latter declared cooperation in this regard with international organizations, i.e., Asian Development Bank (ADB), The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), The Organization for Economic Cooperation and Development (OECD), World Trade Organization (WTO), and The United Nations Conference on Trade and Development (UNCTAD).

On November 07–11, 2014, at the 26th APEC Summit in Beijing (China), a document entitled *The Beijing Roadmap for APEC's Contribution to the Realization of the FTAAP* was adopted. The roadmap provided for the implementation by the end of 2016 of a Collective Strategic Research on Issues on the Realization of the FTAAP, referring to the potential economic and social benefits and costs of the proposed FTA, implementation scenarios, as well as the related challenges for the member economies. In addition, the APEC countries agreed to establish the APEC Information Sharing Mechanism on Regional Trade Agreements (RTAs)/Free Trade Agreements (FTAs) to improve access to data on RTAs/FTAs, in particular, WTO-Plus elements, to enhance regular dialogue and reporting on trade agreements involving APEC countries, as well as to strengthen and use the WTO's RTA transparency mechanism. Importantly, however, the RTAs/FTAs comparative tool, supported by CTI and relevant member states' authorities, set of guidelines for FTA negotiations, as well as the Inventory of RTAs Involving APEC Members and APEC Market Access Group Presentations On Free Trade Agreements, all of them available on the official website of APEC, have not been updated for over 10 years.

Moreover, APEC's Committee on Trade and Investment has implemented two [Action Plan Framework for Regional Economic Integration Capacity Building Needs Initiative](#)—for the years 2012–2014 and, as a result of the APEC Summit in Beijing, for 2015–2017. The Competitiveness Building Need Initiative organized a series of workshops in 2014: on public procurement in Ho Chi Minh City (Vietnam, January 9–10), negotiating the FTA in Qingdao (China, May 6–7), collaterals, including transitional collateral in Surabaya (Indonesia, June 10–11), schedule of FTA commitments in services and investments (Singapore, October 28–29), intellectual property in Ho Chi Minh City (Vietnam, December 17–18). There is as yet no information on initiatives under the second framework plan for 2015–2017, that was expected to facilitate the possible implementation of FTAAP. In the light of the official declarations of the high representatives of APEC, the forum is currently focused on “next generation” trade and investment issues, i.e., the impact of local contribution requirements on regional integration and economic growth, employment, and competitiveness support for trade promotion, services of the manufacturing sector in supply and value chains.

ABAC (2014) indicated the need to achieve a high quality, ambitious, and comprehensive agreement in the negotiations of TPP, RCEP, or Pacific Alliance (PA), that would enable future convergence toward FTAAP. At the time, however, it was acknowledged, that the RCEP negotiation process was still in progress, while the agenda—insufficiently ambitious to meet the FTAAP criteria, so that particular

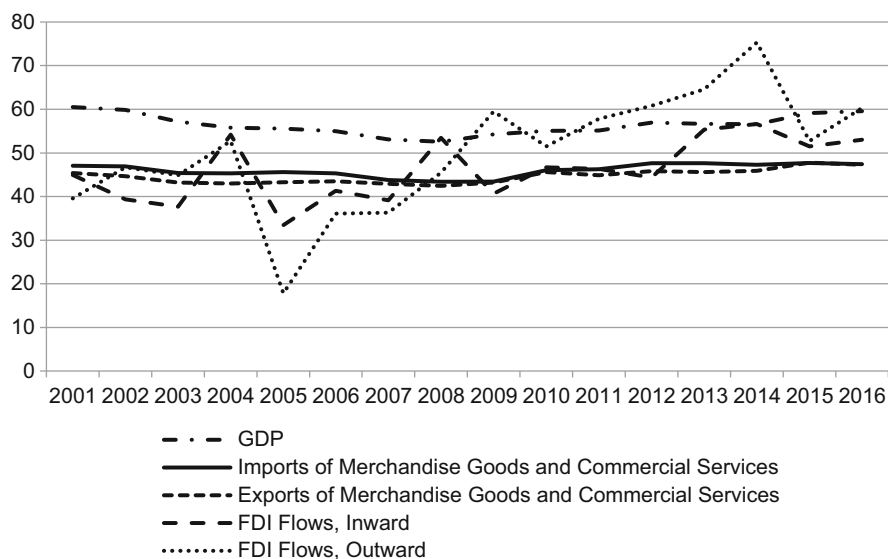


Fig. 1 Selected macroeconomic indicators of APEC, 2001–2016 (shares of world total). Source: Own calculations based on APEC (2018)

hopes were associated with a much more ambitious TPP project, that was finally replaced by CPTPP due to withdrawal of the USA in the early 2017.

4 Economic Potential of FTAAP

Twenty-one APEC member states accounted for nearly 60% of the global GDP, with downward trend in years 2001–2008 (in the period of the global crisis 2008+ shares dropped to 52.55%), however, since 2009 an upward trend resulted in reaching the shares comparable to 2001 (see Fig. 1). Similarly, APEC's shares in the global imports and exports of merchandise goods and commercial services in years 2001 and 2016 were comparably high (45–47%), with nonsignificant fluctuations in the studied period. On the other hand, FDI flows proved to be variable and dynamic through the years, with special regard to outflows (an upward trend in years 2011–2014 resulted in a peak of 75.31% of shares in the world total), whereas in 2005 they reached the lowest level of 17.81%. FDI inflows fluctuated to a lesser extent in respective period, with a peak reached in 2014 (56.62%) and the lowest level in 2005 (33.44%).

There is a huge disparity in terms of nominal GDP and GDP per capita among APEC member states, especially when comparing the smallest and the poorest economy of Papua New Guinea with the USA—the latter recorded 921 times higher GDP and 23 times higher GDP per capita in 2016 (see Table 1). The Chinese and the

Table 1 Selected macroeconomic indicators of 21 APEC member states, 2016

	GDP, current USD (in millions)	GDP per capita, current USD	GDP growth rate (annual %)	Consumer prices (annual %)	Unemployment rate, total (% of total labor force)	Value added, agriculture (% of GDP)	Value added, industry (% of GDP)	Value added, services (% of GDP)	Current account balance (% of GDP)	Public sector cash surplus/deficit (% of GDP)	Economic freedom of the world index (rating)	Ease of doing business index (Rank)	Corruption perceptions index (score)
Australia	1,204,626	49,755.32	2.77	1.28	5.72	2.61	24.33	73.07	-3.07	-2.37	7.99 ^a	15	79
Brunei Darussalam	11,400.65	26,939.42	-2.47	-0.74	6.94	1.20	57.29	41.51	15.49	n/a	n/a	72	58
Canada	1535.77	42,348.95	1.41	1.43	7	1.5 ^b	29.4 ^b	69.10 ^b	-3.22	0.14	7.94 ^a	22	82
Chile	247,027.9	13,792.93	1.59	3.79	6.74	4.30	31.29	64.40	-1.42	-2.76	7.77 ^a	57	66
China	11,199.15	8123.18	6.69	2	4.65	8.56	39.81	51.63	1.81	-0.4 ^a	6.40 ^a	78	40
Hong Kong	320,910.2	43,740.99	2.05	2.41	3.35	0.08	7.69	92.23	3.96	n/a	8.97 ^a	4	77
Indonesia	932,259.2	3570.30	5.02	3.53	4.12	13.95	40.77	45.28	-1.82	-2.48	7.00 ^a	91	37
Japan	4949.27	38,972.34	0.94	-0.12	3.13	1.16	29.53	69.31	3.1	-4.60	7.47 ^a	34	72
Republic of Korea	1411.25	27,538.81	2.83	0.97	3.71	2.20	38.56	59.24	n/a	2.00	7.54 ^a	5	53
Malaysia	296,535.9	9508.24	4.22	2.09	3.44	8.66	38.34	53.01	2.33	-3.07	7.19 ^a	23	49
Mexico	1046.92	8208.56	2.29	2.82	3.88	3.83	32.75	63.42	-2.18	-1.72	6.78 ^a	47	30
New Zealand	184,970.7	39,412.49	3.05	0.65	5.11	6.8 ^b	21.8 ^b	71.4 ^b	-2.37	0.83	8.48 ^a	1	90
Papua New Guinea	20,213.21	2500.09	2.40	6.67	2.64	18.8 ^b	33.7 ^b	47.5 ^b	25.63	-4.87	6.42 ^a	119	28
Peru	192,207.3	6049.23	3.88	3.60	3.53	7.60	32.54	59.87	-2.76	-2.51	7.44 ^a	54	35
The Philippines	304,905.4	2951.07	6.93	1.25	2.71	9.65	30.83	59.52	n/a	-2.28	7.47 ^a	99	35
Russia	1283.16	8748.37	-0.22	7.04	5.54	4.74	32.42	62.84	n/a	-2.16	6.60 ^a	40	29
Singapore	296,975.7	52,962.49	2.00	-0.53	1.8	0.04	26.14	73.82	19.81	5.41	8.81 ^a	2	84
Chinese Taipei	530.53	22,561	1.41	1.39	3.92	1.79	35.48	62.62	13.72	-0.3	7.70 ^a	11	61

Thailand	407,026.1	5910.62	3.24	0.19	0.94	8.35	35.82	55.83	11.85	0.45	6.75 ^a	46	35
United States	18,624.48	57,638.16	1.49	1.26	4.87	1.1 ^a	20.0 ^a	78.9 ^a	-2.43	-3.96	7.94 ^a	8	74
Vietnam	205,276.2	2170.65	6.21	3.24	2.1	18.14	36.37	45.49	4.01	n/a	6.30 ^b	82	33

n/a not available

Source: Own elaboration based on APEC (2018)

^aData of 2015

^bData of 2014

US economies, when combined, accounted for 65.97% of the APEC GDP in respective year. Among the countries with the highest GDP per capita, next to the USA, there were also Singapore, Australia, Hong Kong, Canada, New Zealand, and Japan, with much poorer economies of the aforementioned Papua New Guinea, Vietnam, the Philippines, and Indonesia. Interestingly, ASEAN member states proved to be one of the most dynamic economies in 2016, with annual growth rate exceeding 4–5%. Moderate inflation rates characterized most of the APEC economies in the studied year, except for Papua New Guinea and Russia (6.7–7%), unemployment rate was the highest in Canada, Brunei Darussalam, and Chile (6.7–7%). Two member states with the lowest GDP per capita—Papua New Guinea and the Philippines—recorded the highest value added of agriculture sector in GDP, exceeding 18%, with nearly no contribution in case of Hong Kong and Singapore, and indicators below 2% for Brunei Darussalam, Canada, Japan, Chinese Taipei, and the USA. Industry proved to be dominant in terms of value added to GDP in case of Brunei Darussalam (57%), followed by Indonesia, China, Republic of Korea, and Malaysia (38–40%), with the lowest shares in case of Hong Kong (7.7%), and the USA (20%). The service sector accounted for over 92% of GDP of Hong Kong, slightly less in case of Singapore, Australia, New Zealand, and Japan (69.3–73.8%). The highest surplus on the current account in relation to GDP was recorded by Papua New Guinea, Singapore, and Brunei Darussalam (15.5–25.6%), the highest deficit—by Canada and Australia (3–3.2% of GDP). Furthermore, only 5 APEC members had a cash surplus in 2016, with the highest ratios of Singapore (5.4%) and Republic of Korea (2%), whereas Papua New Guinea, Japan, and the USA recorded the highest deficits (3.9–4.9% of GDP). Not surprisingly, Singapore, followed by Hong Kong and Australia, recorded one of the best indexes in the ranks of Economic Freedom of the World, Ease of Doing Business and Corruption Perceptions, with relatively poorer positions of developing member states of APEC. Worth mentioning, among top five economies in the Ease of Doing Business rank in 2016 there were four APEC member states, namely New Zealand, Singapore, Hong Kong, and Republic of Korea.

Both the USA and China were dominant importers and exporters in 2016 in the group of APEC member states (each exceeding 2 trillion USD annually), whereas the highest shares of both imports and exports of merchandise goods and commercial services in GDP were recorded by Hong Kong and Singapore (150.6–193.7%), with the lowest shares (of 20% of GDP or less) in case of Australia, China, Indonesia, Japan, and the USA (except for Papua New Guinea, which recorded relatively low shares of imports of merchandise goods and commercial services in GDP—16.9%, while the shares of exports in respective period proved to be much higher—40.9%; see Table 2).

The highest surpluses on the current account in nominal terms were recorded by China and Japan (202.2 and 193.9 billion USD), followed by Singapore and Thailand (58.8 and 48.2 billion USD), while the highest deficits were recorded by the USA (451.7 billion USD), followed by Canada, Australia, and Mexico (49.4, 37.0, and 22.8 billion USD, respectively). Comparable analysis of MFN Applied Tariffs indicated that the simple average rate for all products was the highest in case

Table 2 Selected trade-related indicators of 21 APEC member states, 2016

	Imports of merchandise goods and commercial services (in current USD millions)	Imports of merchandise goods and commercial services (% of GDP)	Exports of merchandise goods and commercial services (in current USD millions)	Exports of merchandise goods and commercial services (% of GDP)	Current account balance (in current USD millions)	MFN applied tariff, simple average, all products (rate)	MFN applied tariff, simple average, agricultural products (rate)	MFN applied tariff, duty- free, all products (% of HS 6-digit subheadings)	MFN applied tariff, duty- free, agricultural products (% of HS 6-digit subheadings)	MFN applied tariff, duty- free, nonagricultural products (% of HS 6-digit subheadings)	Economic freedom of the world index, nontariff trade barriers (rating)	Economic freedom of the world index, mean tariff rate (rating)
Australia	251,069.7	20.84	244,689.2	20.31	-37,026	2.5	1.2	50.3	77	45.9	9.5 ^a	6.5 ^a
Brunei Darussalam	4285.47	37.59	5732.46	50.28	1766.39	1.2	0.1	82.3	98.5	79.6	9.76 ^a	4.94 ^a
Canada	511,803.4	33.32	471,279.3	30.69	-49,423.1	4.1	15.6	75.8	59.6	78.5	9.16 ^a	5.75 ^a
Chile	71,467.1	28.93	70,097.64	28.38	-3499.42	6	6	0.3	0	0.3	8.8 ^a	6.91 ^a
China	2,037,148	18.19	2,305,952	20.59	202,203.4	9.9	15.5	7	7.2	6.9	8.02 ^a	5.49 ^a
Hong Kong	621,653.4	193.72	615,171.4	191.70	12,711.2	0	0	100	100	100	10 ^a	7.51 ^a
Indonesia	165,948.1	17.81	167,392.8	17.96	-16,952.3	7.9	8.4	12.7	8.5	13.4	8.62 ^a	5.26 ^a
Japan	790,051.6	15.96	813,718.4	16.44	193,996	4	13.1	52.9	36.5	55.7	9.2 ^a	5.3 ^a
Republic of Korea	n/a	n/a	n/a	n/a	n/a	13.9	56.9	15.1	5.6	16.7	n/a	n/a
Malaysia	208,054.9	70.16	224,864.5	75.83	6920.85	5.8	8.4	65.7	75	64.2	8.78 ^a	6.57 ^a
Mexico	430,870.2	41.16	398,389.1	38.05	-22,828.4	7	14.6	50.3	20.7	55.2	8.58 ^a	5.7 ^a
New Zealand	47,875.91	25.88	48,523.08	26.23	-4376.61	2	1.4	63.9	72.4	62.5	9.6 ^a	7.2 ^a
Papua New Guinea	3416.34	16.90	8279.3	40.96	5180.99	4.7 ^b	12.7 ^b	76.2 ^b	47.4 ^b	81.0 ^b	9.06 ^a	5.28 ^a
Peru	44,384.03	23.09	43,172.95	22.46	-5303.45	2.4 ^a	2.8 ^a	67.5 ^a	52.6 ^a	70 ^a	9.52 ^a	5.53 ^a
The Philippines	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Russia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Singapore	447,264.7	150.61	487,442.4	164.14	58,844.64	0	0.1	100	99.8	100	9.96 ^a	7.95 ^a
Chinese Taipei	281,599.1	53.08	321,343.4	60.57	72,781	6.4	15.7	30.2	25	31.1	8.72 ^a	6.56 ^a
Thailand	237,340.6	58.31	282,781.6	69.48	48,237.24	11 ^a	30.7 ^a	35.3 ^a	11.8 ^a	39.2	7.8 ^a	5.54 ^a

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