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Globalization in highly developed countries and reasons for differentiation

INTRODUCTION

Globalization is certainly one of the major socio-economic processes of recent decades. It undoubtedly influences the changes taking place around us, the nature of economics of the modern world, and is one of the most pervasive phenomena today (Villaverde, Maza, 2011). According to Bauman, globalization is the inevitable fate of the world, an irreversible process that affects us all (Bauman, 2000). Globalization is a very broad and complex process relating to the economic, social and political spheres, the three main dimensions of globalization.

The process of globalization encompasses almost all countries. We all live in a globalizing world. In principle, there is no country that would not be affected by it. However, the level of globalization of individual countries is diverse. We can say that some are more globalized than others. In this respect, what is the situation in highly developed countries? How do these countries compare to the other countries of the world? What changes are taking place in this group of countries? Do these countries follow the same path? Are there any differences between them? If so, what causes their differentiation? All of the above are discussed in this study.

The main goal of this paper is to show the reasons for the differentiation in the level of globalization in highly developed countries. Therefore, the globalization level and the changes that have occurred in recent years are presented first. The advanced hypothesis states that a convergence process is taking place in the sphere of globalization.

The study covers 21 highly developed countries, namely (in alphabetical order): Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany,

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Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom (UK) and the United States of America (USA). These countries are classified by the World Bank as “high-income economies”. The study did not cover all the countries which belong to this group, as there are 80 such economies (World Bank Database). The investigation did not include countries that have achieved high levels of GDP per capita in recent decades, e.g. oil producing countries or newly industrialised countries. GDP per capita was not the only selection criterion as the criteria of socio-economic development and historical development were also taken into account. Only countries that were the first to enter the path of industrialisation and accelerated socio-economic development were selected. Hence the list includes 14 countries of Western Europe (small states such as Andorra, Iceland, Liechtenstein, Monaco and San Marino were omitted) and 5 non-European countries (the USA, Canada, Japan, Australia and New Zealand)².

LITERATURE REVIEW

There is no agreement in the literature on the concept of globalization. “*It means different things to different people*” (Martens et al., 2010). According to Scholte, globalization can be understood as: internationalization, liberalization, universalization and westernization, but it is not equivalent to any of these older concepts and trends (Scholte, 2008). Although globalization was originally treated as something new, it was eventually recognized as a higher, more advanced and complex stage in the process of economic internationalization, and hence the continuation of what had already happened. Globalization is only – as most economists think – accelerating the long-standing internationalization of the economic process (Budnikowski, 2000; Liberska, 2002; Zorska, 1998). Some add that this is the exceedance of a certain threshold. If internationalization meant the development of economic relations between independent national economies, then globalization would mean such an intensification of relations that all global national economies would become more or less interdependent (Flejterski, Wahl, 2003). For some authors, however, it is something more. Globalization is a structural shift in the nature of global capitalism and gives relations between countries a new qualitative dimension (Liberska, 2002). This view is in line with Dicken’s approach to globalization (Dicken, 1998). Globalization is also often referred to as the growing integration of national economies (through international trade and foreign direct investment). Markets and production become increasingly interdependent.

² The same group of countries was the subject of research by the author on the impact of globalization on economic growth in highly developed countries. For this reason, an identical paragraph can be found in this study (Swadźba, 2020).

It is a global integration (Zorska, 1998). Globalization can also be defined as the process of ever closer integration of national economies (Budnikowski, 2000). This is so because it is a process of eliminating border barriers to market functioning. The consequence of this is the process of integrating the world economy (Szymański, 2004).

At the end of the discussion on globalization, we can present its definition according to KOF, a Swiss institute, whose globalization indices will be analysed later in this paper: “*Globalization describes the process of creating a network of connections among actors at intra- or multi-continental distances, mediated throughout a variety of flows between entities including people, information and ideas, capital and goods. Globalization is a process that erodes national boundaries, integrates national economies, cultures, technologies and governance, and produces complex relations of mutual interdependence*” (Gygli et al., 2019).

Globalization is a subject of interest for representatives of many scientific disciplines. They are interested in the essence of globalization, its characteristics, causes, consequences, beneficiaries and losers, etc. Over time, they have become interested in its measurement, which is now one of the main aspects of globalization studies. If we say that some countries are less and others more globalized, then we need to know how we measure globalization.

Numerous measures of globalization have emerged in the literature. The first was the globalization index developed by Kearney and “Foreign Policy” in 2001. It was not published until 2006. A small number of countries were surveyed. The authors of the above index identified 12 indicators that have become a basis for measuring globalization (*Measuring...*, 2001). In 2002, the Globalization Index was developed by the Centre for the Study of Globalization and Regionalization (CSGR) at the University of Warwick in the United Kingdom. It was published between 2002 and 2004. The authors of this index adopted slightly more (16) indicators (Lockwood, 2004; Lockwood, Redoano, 2005). In 2008, one based on 11 indicators was released, the Maastricht Globalization Index – MGI (Figge, Martens, 2014), two years later followed by one built on 21 indicators, the New Globalization Index (NGI) by P. Vujakovic (2010). In recent years, other indices of globalization have also been developed (Martens et al., 2015).

There is another important measure of globalization that we have not mentioned yet – the KOF Globalization Index, developed in 2002. Its name derives from the name of the research institute (Konjunkturforschungsstelle) where it was devised. It was introduced by Dreher in 2006, updated in 2008 (Dreher et al., 2008) and then again in 2018. The new revisited KOF Globalization Index was improved in many ways over the previous version. It now distinguishes between *de facto* and *de jure* measures along the different dimensions of globalization. As far as the economic dimension is concerned, it also discriminates between trade and financial globalization. The new index is based on more variables and uses time-varying weighting of these variables (Gygli et al., 2019).

METHODOLOGY

The following research methods were used: historical, literature, descriptive analysis and statistical.

The statistical data used in this paper are adopted from the KOF Globalization Index which is updated annually and which covers a much higher number of indicators. Its advantage is that it measures globalization for every country in the world from 1970, unlike the other mentioned globalization indices. The KOF Globalization Index has become the most often used globalization index. It successfully measures globalization and evaluates its consequences (Potrafke, 2015). The KOF index has been used in many studies. It is the most reliable (Villaverde, Maza, 2011) and most highly rated (Casseli, 2008; Gozgor, 2018) measure of globalization.

To describe the current level of globalization, the 2018 KOF Globalization Index (rankings for the year 2016) was adopted, and the previous indices were used to show the level of globalization and its changes in the years 1990–2018. The KOF index has three globalization dimensions, namely: economic, social and political. As a result, in addition to the global index of globalization, 3 sub-indices were created. All were calculated on the basis of several indicators with a specific weighting. The details of the methodology are presented on the KOF website (KOF).

The data used in this paper were obtained also from the World Bank Database (information about population, area and number of people per square kilometre of individual countries). The time range of the study is 1990–2018.

LEVEL OF GLOBALIZATION³

The latest KOF index (2018) and sub-indices for highly developed countries and their positioning in the world ranking are given in Table 1.

The level of globalization of highly developed countries is very high, and the first 12 positions in the world ranking are occupied by these countries. Sixteen of the countries are in the top twenty. Switzerland is the most globalized country according to KOF (2018), followed by the Netherlands and Belgium, each with more than 90 points (0–100). The next 16 countries have 80 to 90 points, with the top three (Sweden, United Kingdom and Denmark) with almost 90 points and next 6 countries with over 85 points. The final 2 countries (Japan and New Zealand) have less than 80 points. In the lowest positions in this group are 4 non-European

³ A large part of this and the next point – due to sharing the same study group and time range – is identical to the corresponding points included in the study “Globalization and economic growth in highly developed countries” (Swadźba, 2020).

countries, with only Canada ranked higher (16th position). The difference between the most and the least globalized country is not very large – about 13 points.

Table 1. 2018 KOF Globalization Index

Globalization Index	Economic Globalization	Social Globalization	Political Globalization
1.Switzerland 91.17	2.Netherlands 89.01	1.Luxembourg 92.11	1.Italy 98.25
2.Netherlands 90.97	3.Belgium 88.56	2.Norway 91.12	2.France 98.16
3.Belgium 90.50	4.Luxembourg 88.34	4.Switzerland 90.64	3.Germany 97.56
4.Sweden 89.88	6.Ireland 87.86	5.Canada 90.12	4.Netherlands 97.46
5.UK 89.35	8.Switzerland 86.70	6.UK 90.11	5.Spain 97.45
6.Denmark 89.14	11.Denmark 83.77	7.Denmark 89.87	6.UK 97.38
7.Austria 88.95	14.Sweden 82.52	8.Sweden 89.82	7.Sweden 97.31
8.Germany 88.17	17.Austria 82.03	9.Ireland 89.26	8.Switzerland 96.17
9.France 87.20	18.Finland 81.70	10.Austria 88.74	9.Belgium 96.12
10.Finland 86.99	22.UK 80.56	13.Germany 87.57	10.Austria 96.08
11.Norway 86.40	24.Germany 79.39	14.Australia 87.33	11.Denmark 93.77
12.Spain 85.30	25.Portugal 79.19	15.Belgium 86.69	12.USA 93.72
15.Ireland 84.64	28.France 77.18	18.Netherlands 86.44	13.Finland 93.55
16.Canada 84.38	30.Norway 77.13	19.NewZealand 86.32	16.Canada 92.80
17.Luxembourg 83.73	36.Spain 75.32	20.France 86.25	20.Portugal 91.86
19.Portugal 83.52	48.Canada 70.21	22.Finland 85.62	26.Norway 90.93
22.Italy 82.59	49.NewZealand 70.21	23.USA 85.45	29.Australia 89.88
23.USA 82.10	53.Italy 68.75	31.Spain 83.14	31.Japan 89.22
24.Australia 81.58	62.Australia 67.54	45.Japan 80.82	65.NewZealand 77.66
36.Japan 78.37	65.USA 67.12	46.Italy 80.78	67.Ireland 76.79
39.NewZealand 77.91	74.Japan 65.08	50.Portugal 79.51	86.Luxembourg 71.17

Source: KOF.

The Netherlands is ranked first in the economic globalization index, Belgium second and Luxembourg third (the Benelux countries). Together with the next 7 countries they each have more than 80 points. Of the countries with fewer points: 7 have between 70 and 80, with 4 less than 70. Non-European countries and Italy fill the final 6 positions. The difference between the most and the least globalized countries in the economic globalization ranking is similar to the overall ranking. However, it is worth noting that only 5 countries are also in the overall top ten and 9 in the top twenty. The last 4 countries are in the lower half of the top hundred, with Japan in 74th place. Almost all the countries have lower positions than in the overall ranking.

In the ranking of social globalization, Luxembourg is in first place and together with Norway, Switzerland, Canada and the United Kingdom have more

than 90 points each. Only Portugal has less than 80 points, lying in 50th position in the world ranking. There are 9 countries in the top ten and 15 countries in the top twenty. The analysed group of countries have better positions than in the previous ranking, which is true especially of non-European countries (Canada ranks 5th). The difference between the most and the least globalized countries is almost the same as in the previous rankings.

The situation is more diverse compared to the previous sub-indices in the ranking of political globalization. Italy is the most globalized country (98.35), but the next 6 countries have almost the same number of points. Sixteen countries have over 90 points, with as many as 15 countries in the top twenty and 10 in the top ten! Many countries are positioned high in this ranking, while low positions are occupied by New Zealand, Ireland and Luxembourg. The last in this group, Luxembourg, is in 86th position with about 70 points, 27 points less than Italy (the largest difference).

It is also worth mentioning the *de facto* and *de jure* indices. For the analysed group of countries, the *de jure* globalization index is 19 times higher than the *de facto* globalization index. The biggest difference is for Luxembourg (19 points), the USA and Japan (12 points), Portugal and Spain (10 points). Switzerland and Ireland are exceptions. The former has a rather small difference, while the latter is much higher with as many as 7.5 points. The situation is similar for economic globalization, where the *de jure* index is higher in 18 countries. The differences are even greater in the USA and Japan, at 30 points, and in Australia and Canada, at about 20 points. Diversity also occurs in the case of social and political globalization.

CHANGES IN THE LEVEL OF GLOBALIZATION

The KOF provides information that allows us to identify the changes which have taken place in the level of globalization in highly developed countries since the 1990s. See Table 2.

The increase in the level of globalization took place in all the countries. In the 1990–2018 period, the index increased most in Portugal, Spain and Japan (by over 20 points), which means in less globalized countries. This increase is higher than achieved for the world (17.75%) and for high income countries (about 15%). The changes are noticeably larger in terms of percentage points, e.g. over 30% (the highest in Japan – 36.6%). They are similar to the changes for the world (40%) and higher than in high income countries (27%). The lowest increases in the level of globalization (less than by 10 points) occur in the results for Luxembourg, Belgium, Norway, Denmark and the United Kingdom. These changes are similar in terms of percentage points, at about 11–12%.

Table 2. KOF Globalization Index 1990–2018

Country	1990	1995	2000	2005	2010	2018
Switzerland	79.00	83.40	88.71	88.64	89.23	91.17
Netherlands	80.25	84.06	87.62	87.99	88.96	90.97
Belgium	81.11	85.73	87.88	88.54	90.02	90.50
Sweden	78.24	84.16	88.23	89.03	90.02	89.88
UK	79.49	83.46	87.11	88.23	88.32	89.35
Denmark	79.38	83.64	87.32	88.35	88.17	89.14
Austria	75.80	82.53	87.23	88.27	88.04	88.95
Germany	73.11	79.14	85.29	86.91	86.90	88.17
France	75.66	79.66	84.20	84.83	86.30	87.20
Finland	72.41	80.16	85.14	85.05	85.69	86.99
Norway	76.75	81.45	84.75	84.30	85.60	86.40
Spain	64.38	74.83	80.94	81.98	82.95	85.30
Ireland	73.74	79.42	82.91	83.63	84.68	84.64
Canada	71.56	78.29	83.18	82.32	83.04	84.38
Luxembourg	74.58	78.58	81.82	83.40	87.37	83.73
Portugal	61.28	73.55	79.49	80.42	81.93	83.52
Italy	69.44	73.84	80.90	79.78	80.87	82.59
USA	70.59	75.01	78.19	79.48	80.18	82.10
Australia	68.35	74.59	78.60	79.55	81.51	81.58
Japan	57.51	60.05	68.68	71.73	74.51	78.37
New Zealand	67.21	72.95	78.03	76.85	78.54	77.91
World	43.94	48.40	52.86	56.78	60.11	61.69
High income	57.39	62.34	67.07	70.05	72.54	72.75

Source: KOF.

The largest increase was recorded by countries with low or average levels of globalization in the base year. The smallest change was recorded by countries with rather high levels of globalization in 1990. As a result, the differences between them decreased. The difference between the most and the least globalized is 23.6 points for 1990, with a decrease to 13.3 points for 2018. Hence, convergence in the level of globalization is apparent in highly developed countries.

The increases in the level of globalization are differentiated. The highest occur in the last decade of the 20th century, rather low in the first decade of the 21st century (even a decrease in New Zealand) and the lowest in the second decade of the 21st century (a large decrease in Luxembourg and a rather small decrease in New Zealand, Italy, Sweden and the USA).

The positions of individual countries in the globalization ranking in selected years are shown in Table 3.

Table 3. Ranking of highly developed countries

1990	1995	2000	2005	2010	2018
Belgium	Belgium	Switzerland	Sweden	Belgium	Switzerland
Netherlands	Sweden	Sweden	Switzerland	Switzerland	Netherlands
UK	Netherlands	Belgium	Belgium	Sweden	Belgium
Denmark	Denmark	Netherlands	Denmark	Netherlands	Sweden
Switzerland	UK	Denmark	Austria	UK	UK
Sweden	Switzerland	Austria	UK	Denmark	Denmark
Norway	Austria	UK	Netherlands	Austria	Austria
Austria	Norway	Germany	Germany	Luxembourg	Germany
France	Finland	Finland	Finland	Germany	France
Luxembourg	France	Norway	France	France	Finland
Ireland	Ireland	France	Norway	Finland	Norway
Germany	Germany	Canada	Ireland	Norway	Spain
Finland	Luxembourg	Ireland	Luxembourg	Ireland	Ireland
Canada	Canada	Luxembourg	Canada	Canada	Canada
USA	USA	Spain	Spain	Spain	Luxembourg
Italy	Spain	Italy	Portugal	Portugal	Portugal
Australia	Australia	Portugal	Italy	Australia	Italy
New Zealand	Italy	Australia	Australia	Italy	USA
Spain	Portugal	USA	USA	USA	Australia
Portugal	New Zealand	New Zealand	New Zealand	New Zealand	Japan
Japan	Japan	Japan	Japan	Japan	New Zealand

Source: KOF.

We can see that there were no major changes, either up or down. The leading places are most often occupied by: Belgium, Netherlands, Switzerland, Sweden and Denmark. Japan, New Zealand, USA and Australia, i.e. non-European countries, are at the bottom of the table, while Canada is always a little higher. Spain, Portugal, Germany, Switzerland and Finland have improved their position significantly in the 2018 ranking in comparison to the 1990 ranking. Spain has even moved up by 7 places. Luxembourg, Norway, New Zealand and the USA have moved down (by 3–4 places).

REASONS FOR DIFFERENTIATION IN GLOBALIZATION LEVEL

The KOF globalization indices for highly developed countries and their positions in the world ranking show that medium-sized countries achieve a higher level of globalization than large countries. This is why the influence of such factors as land area (square kilometres), population number and population density (people

per square kilometre) for each country were examined in terms of diversification of globalization. They were analysed by regressing the KOF Index of Globalization (2018) as a dependent variable against each of the above mentioned factors as independent variables. Regression functions (y) and the coefficient of determination (R^2) for these relationships in 2018, both for the general globalization index and the economic globalization index, are shown in Table 4.

Table 4. Regression functions (y) and coefficient of determination (R^2)

Globalization factors	Regression functions	Coeff. of determination (R^2)
Land area and general globalization index	$y = -0.0004x + 86.469$	$R^2 = 0.1119$
Land area and economic globalization index	$y = -0.0014x + 80.567$	$R^2 = 0.3233$
Population number and general globalization index	$y = -0.0172x + 86.614$	$R^2 = 0.1017$
Population number and economic globalization index	$y = -0.0526x + 80.834$	$R^2 = 0.2414$
Population density and general globalization index	$y = 0.0091x + 84.478$	$R^2 = 0.1058$
People density and economic globalization index	$y = 0,0212x + 75.279$	$R^2 = 0.1475$

Source: own study based on KOF and World Bank Database.

The above results show that there is a negative correlation between the land area and the population of a country and the level of globalization, as well as a positive correlation between the population density and the level of globalization. In general, the relationship between the factors examined is greater for the economic globalization index than for the general globalization index. The relationship between these factors is in line with expectations, however it is rather low. This means that small and medium-sized countries do not have to be more open and globalized in comparison with large ones, and we can find several examples of this among the analysed highly developed countries. There are many more factors that affect globalization.

The KOF globalization indices also show that highly developed European countries are more globalized than non-European countries (especially in the economic dimension of globalization). This means that the distance between the analysed groups of countries is a very important factor, which would seem to be obvious. The distance between countries affects transport costs, and thus it affects the profitability of economic cooperation between them. This means that it can develop more easily between neighbouring countries.

Globalization is certainly one of the major socio-economic processes of recent decades, but for European countries there is one more: international economic integration. Economic integration has strengthened and intensified globalization. The process has undoubtedly contributed to increased flows of goods, services, capital and people ("four economic freedoms"). The common market has played an important role here. The economic aspect of globalization has been increased, as well as the

social (through personal contacts) one and political (the position of these countries in the world) one. The relationship between integration and globalization seems to be evident (Swadźba, 2007). The European countries which have started the process of international economic integration are the most globalized. The level of globalization in the countries that remained outside this process was initially much lower, but following integration with the European Union, the globalization process has accelerated. The integration process has contributed to increasing the levels of their globalization indices. The countries that remain outside this process are characterised by the lowest levels of globalization, which can be seen by analysing the KOF data (Swadźba, 2018). Hence we can say that international economic integration is also a factor affecting the higher level of globalization of European countries.

CONCLUSIONS

Studies on the globalization of highly developed countries allow us to draw the following conclusions:

There is no doubt that highly developed countries are the most globalized countries in the world. It does not mean that the level of globalization in individual countries is the same. This level varies, but the differences between the countries are not large. The medium-sized European countries are the most globalized, while non-European countries are the least globalized. Their position is diverse as far as the economic, social and political dimensions of globalization are concerned.

The level of globalization of these countries has increased significantly, although the changes in the rankings varied. The highest increase was in the less globalized countries, the lowest in the most globalized ones. As a result, the differences between them have significantly decreased. Thus we can see convergence in the level of globalization in the group of countries analysed. Therefore, the hypothesis was verified positively.

The differences in the level of globalization of individual highly developed countries result from area, population number (negative correlation) and population density (positive correlation). Another reason for such differences is the geographical location (distance from other highly developed countries) and participation in the integration process (countries that take part in it are noticeably more globalized).

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Summary

The main goal of this paper is to show the level of globalization, its changes and the reasons of differentiation in highly developed countries. The advanced hypothesis states that a convergence process is taking place in the sphere of globalization. The research methods used were the following: historical, literature, descriptive analysis and statistical methods. Statistical data used in this paper come from KOF Globalization Index, and the World Bank Database. The research covered 16 countries of Western Europe, the USA, Canada, Japan, Australia and New Zealand. The time range of the research is 1990–2018. The conclusions of the study are as follows: highly developed countries are the most globalized. The level of globalization in individual countries varies, but the differences are not considerable. Medium-sized European countries are the most globalized, while non-European countries are the least globalized. The index of *de jure* globalization is much higher than the index of *de facto* globalization, especially in non-European countries. Starting from the 1990s, the level of globalization has increased significantly, although it has varied considerably. The highest increase was in the less globalized countries, the lowest in the most globalized ones. As a result, the differences between them have significantly decreased. Thus we can see the convergence in the sphere of globalization in highly developed countries. Differences in the level of globalization relate to land area, population number, population density, geographical location (distance from other highly developed countries) and participation in the integration process (countries that take part in it are virtually more globalized).

Keywords: globalization, changes in the level of globalization, highly developed countries.

Globalizacja w krajach wysoko rozwiniętych i przyczyny jej zróżnicowania

Streszczenie

Głównym celem artykułu jest pokazanie zmian w poziomie globalizacji krajów wysoko rozwiniętych oraz przyczyn jego zróżnicowania. Postawiono hipotezę, że w krajach tych ma miejsce proces konwergencji w sferze globalizacji. Wykorzystano następujące metody badawcze: analiza historyczna, literatury, opisowa oraz metody statystyczne. Dane statystyczne wykorzystane w artykule pochodzą z KOF Globalization Index oraz World Bank Database. Badaniami objęto 16 krajów Europy Zachodniej oraz USA, Kanadę, Japonię, Australię i Nową Zelandię. Zakres czasowy badań to lata 1990–2018. Wnioski wynikające z badań są następujące: kraje wysoko rozwinięte są najbardziej zglobalizowane. Stopień globalizacji poszczególnych krajów jest zróżnicowany, ale różnice te nie są duże. Najbardziej zglobalizowane są kraje europejskie średniej wielkości, najmniej kraje pozaeuropejskie. Indeks globalizacji *de jure* jest znacznie wyższy w porównaniu z indeksem *de facto*, zwłaszcza w krajach pozaeuropejskich. W latach 1990–2018 poziom globalizacji zwiększył się znacznie, chociaż wzrost ten był zróżnicowany. Największy wzrost miał miejsce w krajach naj-

mniej zglobalizowanych, a najmniejszy w krajach najbardziej zglobalizowanych. W efekcie różnice między nimi znacznie się zmniejszyły. Dlatego możemy mówić o procesie konwergencji w sferze globalizacji w krajach wysoko rozwiniętych. Na różnice w poziomie globalizacji poszczególnych krajów wpływają takie czynniki, jak: obszar kraju, liczba ludności, gęstość zaludnienia, położenie geograficzne (odległość od innych krajów wysoko rozwiniętych) oraz uczestnictwo w procesie integracyjnym (kraje, które uczestniczą w nim, są zdecydowanie bardziej zglobalizowane).

Słowa kluczowe: globalizacja, zmiany w poziomie globalizacji, kraje wysoko rozwinięte.

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