# FISCAL EQUALIZATION AND REGIONAL GROWTH

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**Abstract**

The year 2013 is already the ninth year of implementing fiscal decentralization in the Slovak Republic. The aim was to ensure independence as well as responsibility of subnational governments and improve the ability to finance their original competences from own sources. As decentralization leads to growth of imbalance intergovernmental transfers are the instruments used by central government to reduce fiscal disparities and fill the gap between the spending needs and fiscal capacity of some local authorities. Tax sharing system in Slovakia, is an important tool of horizontal fiscal imbalance equalisation. Despite the title, shared taxes play the role of unconditional grants if even they are formally labelled as local government own revenues under current legislation. In this paper we examine the allocation of personal income tax share as an instrument of regional policy and factors affecting inter-regional disparities in Slovakia. The paper presents some results of the research project VEGA1/0822/11 Redistribution of financial resources in the decentralized fiscal system in Slovakia.

**Keywords:** Fiscal decentralization, horizontal fiscal imbalance, regional growth, Gini coefficient, fiscal equalization

## Introduction

New system of financing of the municipalities and higher territorial units (regional government) in Slovakia, has taken effect in 2005 following the further devolution of responsibilities from central to regional and local levels of govenrment. Its basic principle was that the subnational governments would finance their „original" competences from their own resources. The principle own sources of revenue are local taxes and non-tax revenue, that is why fiscal disparities have arisen due to differences between the revenue base of local/regional budgets, especially due to various fiscal capacity. There are also differences in the need for local public services, as well as in the cost to provide the same level of certain services between subnational governments. These differences are brought about by many factors (age and different social structures, populations, different environmental and economic conditions, etc.

Fiscal equalisation has to be primarily aimed at equalisation of region's possibilities to provide comparable level of goods and services regardless of the place where inhabitants of the state or EU live, it is not a "charitable contribution from richer to poorer (Buchanan, 1950, s. 596) and as Buchanan adds (1950, s. 596) "financial equalization is based on a firm principle in which it gives the opportunity to regions/states inhabitants with lower income possibilities right to obtain financial sources or order to ensure fiscal equality". Intergovernmental transfers are used to reduce fiscal disparities and may be regarded as an instrument of regional policy and factors affecting inter-regional disparities. Intergovernmental grants and transfers remain an important source of finance for sub-national provision of public goods and services. The principal intergovernmental transfer in Slovakia is the share of personal income tax, which is collected by the centre. In this paper we have examined the regional dimension of tax sharing and their impact on the development of the regions in Slovakia.

**Decentralization and fiscal imbalance**

Decentralization often leads to growth of fiscal imbalance because the optimal degree of decentralization is generally larger on the spending than on the revenue side. As a result, the lower levels of governments do not raise sufficient revenue to match expenditure responsibilities. This situation is referred to as vertical fiscal imbalance. The allocation of expenditure and revenue assignments in fiscally decentralized countries is also accompanied by the emergence of horizontal fiscal imbalances between local government budgets because of the different fiscal capacities and expenditure needs.

The existence of a fiscal gap at the subnational government level arising out of own-revenue and own-expenditure assignments is the basic rationale for a system of transfers. The proper system of intergovernmental transfers can correct inequities and inefficiencies caused by decentralization. There are numbers of methods to close the fiscal imbalances of sub-national governments, some of which also reduce imbalances between jurisdictions (Ahmad, 1997). In practice, we may distinguish between systems of revenue sharing and intergovernmental grants.

The main mechanism for intergovernmental transfers is grants from central to local governments. A variety of unconditional (or general) grant systems are in use to address vertical imbalances. Provision of conditional (specific) block grants from the centre to sub-national governments aims to financing certain services, such as primary education, social services and roads. Equalisation grants are used to address horizontal imbalances between local authorities.

Under the tax sharing arrangement subnational governments are automatically attributed a fixed percentage of the yields of certain national tax without any discretion or taxing power of subnational authorities. Moreover, central governments play a dominant role in determining the amount of revenue each sub-central unit receives from the shared source. It has therefore become common in the academic literature to interpret grants and tax sharing as equivalent tools of central fiscal control over sub-central tiers. We do not intend to discuss the differences between the two methods of transfers. Anyway, according to the purpose of this paper, it should be mentioned that resources emanating from tax sharing are thought to convey more power and autonomy to subnational government than intergovernmental grants. Also in a tax sharing system, subnational governments tend to bear more financial risk in terms of tax revenue losses or fluctuations than if their revenue was based on grants (Blöchliger and Petzold 2009).

Tax sharing arrangements may differ according to how tax revenue is distributed across individual jurisdictions, i.e. whether an individual subnational government share is closely related to what it generated on its territory or whether there is some in-built redistribution.

In the first case the revenue share of each sub-national government is strictly related to what it generates on its own territory. Tax share allocated to each region is proportional to what that region generated on its territory and there no horizontal redistribution or fiscal equalisation across regional/local governments. The other arrangement redistributes a fixed share of specific tax revenues to subnational governments on the principle of horizontal fiscal equalisation, levelling out differences in potential revenue raising capacity and/or needs. Fiscal equalisation arrangements are implemented indirectly via a vertical system financed by national tax revenues generated at the sub-national level.

**Decentralization in Slovakia**

Since 1989 the Slovak Republic has carried out a comprehensive reform of public administration, on which decentralisation has been a key element. The final target was to have a streamlined government, territorially divided in three layers: (a) State administration, with a central organisation and a deconcentrated one; (b) the regional layer; and (c) the local authorities. As a result, the Slovak Republic is divided into 8 regions and 2,890 municipalities (as at Dec. 31, 2012). Every level (state – region – municipality) has its own elected officials, distributed responsibilities and liabilities. The municipalities and regions are endowed with rule-making power. Within 2890 municipalities are 138 towns and cities where live 55 per cent of population. The vast majority of municipalities are very small, being based on village communities. Over two-thirds have a population of fewer than 1,000, and the range (in 2006) was from just eight people to 415,589 in the capital, Bratislava.

The present system of local government in Slovakia was established in 1990, when new legislation created a system of primary–level elected municipal bodies with legal identities and defined rights. The principle functions devolved to municipal governments were urban services, housing and physical infrastructure and utilities, together with some cultural, sporting and social services. Most of responsibilities for personal social services such as education, social welfare and services stayed with central government together with social insurance funds.

The argument, which has been most frequently used in the discussion concerning ongoing decentralisation process, was that higher degree of decentralisation could contribute to more efficient provision of services by matching expenditure more closely to local priorities and preferences. At the same time another tier—regional self-government-was envisioned. The proposed creation of a regional tier of self-government should have addressed the problem of large proportion of small municipalities with limited professional and financial capacity capabilities to manage some public services as well as the problem of services where economies of scale and scope exists and services with catchment area exceeding municipal jurisdictions. After the elections in December 2001, the governing bodies of the Regions were established and took up their functions. The autonomous regions started their activities in 2002.

Years 2002-2003 brought the next stage of devolution represented by a fundamental change of responsibilities. The core was the transfer of more than 400 powers from the state administration to municipalities, higher territorial units. The transfer implied not only the nominal or formal conveyance of the competences, but also of infrastructures, personnel and resources.

The transfer of executed competence from the public administration bodies to the municipalities and regional government was accompanied by a significant devolution of expenditure responsibilities from the centre to sub-national governments in the areas of education, social services, roads and health care, etc. Matching revenue resources to spending responsibilities was one the most crucial issues.

New system of financing of the municipalities and higher territorial units (regional government), has taken effect in 2005, the substance of which was to determine revenue collections of the regional government as well as to strengthen the independence and responsibility of local governments in deciding on the use of public funds for efficient sub-national service delivery.

Municipalities and regional government are responsible for performing their tasks with resources from their own budgets. For carrying out state administration tasks, they do acquire funds from the state budget. Assignment of expenditure responsibilities to local and regional governments has been also accompanied by the emergence of fiscal imbalances between sub-national government budgets.

The principal own sources of revenue available to local and regional governments since 1993 are local taxes and non-tax revenue. The current legislation provides Slovak municipalities with eight separate local taxes, which are employed to generate local revenue. Municipalities administer seven local taxes (property tax and six specific local taxes), rates of which and whether they are imposed, are discretionary. Local authorities have the power to offer concessions or waivers on rates of local taxes. The only local tax applicable on the regional level is the Motor Vehicle Tax, which is imposed on vehicles used for commercial purposes only. Non-tax revenue includes operating surpluses of public enterprises controlled by sub-national governments, fees and charges, sales, fines, property income.

However, own revenue cover only 30 percent of municipal current expenditure and even less than 20 per cent of regional current expenditure.

From a fiscal federalism perspective the high vertical fiscal imbalance has been (partially) resolved by conditional grants as well as mechanism of tax sharing.

There is a system of intergovernmental specific-purpose grants, to finance specific spending programs. These represent around one third of municipal budgets. The main grant is for education, allocated on a per pupil basis. Other earmarked transfers are provided for public housing, public transport, and social care.

The principal intergovernmental transfer is the share of personal income tax, which is collected by the centre. The legislation has stipulated the share of the aggregated personal income tax that was re-distributed from the state to respectively the regional government (23.5%) and the municipalities (70.3%). The remaining 6.2 per cent was kept by the state. Since 2012 the percentages of yield have been changed in favour of state – 65.4% municipalities, 21.9% regions, 12.7% state. The share for each subnational government is calculated on the basis of needs and former expenditures of the national government for devolved responsibilities. Sub-national government are free to use the revenue allocated, i.e. it is the unconditional revenue.

A share of the national personal income tax is distributed to the local and regional governments based on the principle of horizontal fiscal equalisation, levelling out differences in potential needs; i.e. the share for each SCG is calculated on the basis of needs and former expenditures of the national government for devolved responsibilities. Formulas used for calculating the tax re-distribution to a certain region/municipality are driven by population and population-related factors such as number of inhabitants, age structure, size, population density, etc.

Tax sharing of the personal income tax has been taken for the decisive equalisation component in intergovernmental fiscal relations. It is essential to eliminate vertical fiscal gap but it is also supposed to include a horizontal equalisation effect, which is deemed to set off the expenditure inequalities.

There are sharp regional differences across Slovak regions. The eastern regions have a much higher incidence of poverty, as economic activity is heavily concentrated in the west, particularly around the capital, Bratislava. Disparities are usually measured by regional GDP as an indicator of economic performance in a particular territory. GDP per capita can be assumed to be a good indicator of revenue raising capacity (Blöchliger et al. 2007, p.26). To illustrate regional disparities in table 1 we provide regional GDP and unemployment rate indicators in 2010.

Table 1 Regional GDP and unemployment rate in 2010

| Region | % of regional GDP on total GDP | regional GDP per capital (in EUR) | unemployment rate |
|---|---|---|---|
| Region of Bratislava | 27,78 | 29 241 | 5,4 |
| Region of Trnava | 11,64 | 13 634 | 9,4 |

| | | | |
|---|---|---|---|
| Region of Trenčín | 9,77 | 10 744 | 7,9 |
| Region of Nitra | 10,79 | 10 078 | 13,9 |
| Region of Žilina | 11,39 | 10 746 | 12,5 |
| Region of Banská Bystrica | 8,89 | 8 974 | 15,5 |
| Region of Prešov | 8,42 | 6 861 | 18,5 |
| Region of Košice | 11,33 | 9 581 | 16,9 |
| TOTAL | **100** | **12 131** | **100** |

Source: Statistical Office of Slovak Republic

In our research through the quantification of inter-regional redistribution of shared tax to local and regional government budgets, we have assessed the redistributive effect of tax sharing in terms of their impact on reducing the horizontal fiscal imbalance.

**Personal income tax redistribution**

As mentioned above a fixed share (93.8%) of personal income tax collected in regions was redistributed to subnational governments taking a number of need criteria into account. In our research we have looked at the amount of personal income tax collected in different regions and the sum of revenue from PIT share distributed to municipal and regional government budgets in the respected region. Some of the results and findings are presented in the figures and table below.

In the table 2 below personal income tax collected in particular region as well as tax-shared revenues in municipalities and self-governing regions (summed) are shown. Personal income tax collected in comparison with revenues from shared tax differs mostly in the region of Bratislava where the coefficient is around 20%. In regions of Trnava, Trenčín, Žilina, Nitra, Košice and Banská Bystrica the ratio values range from 112%-168%. However, in the region of Prešov collected taxes in the year 2010 achieved value 63.4 million EUR, revenues of this region (counted revenues of municipalities and self-governing regions) exceeded 203.2 million EUR (the ratio achieved value of 320%).

Table 2 Personal income tax and tax sharing revenue in regions

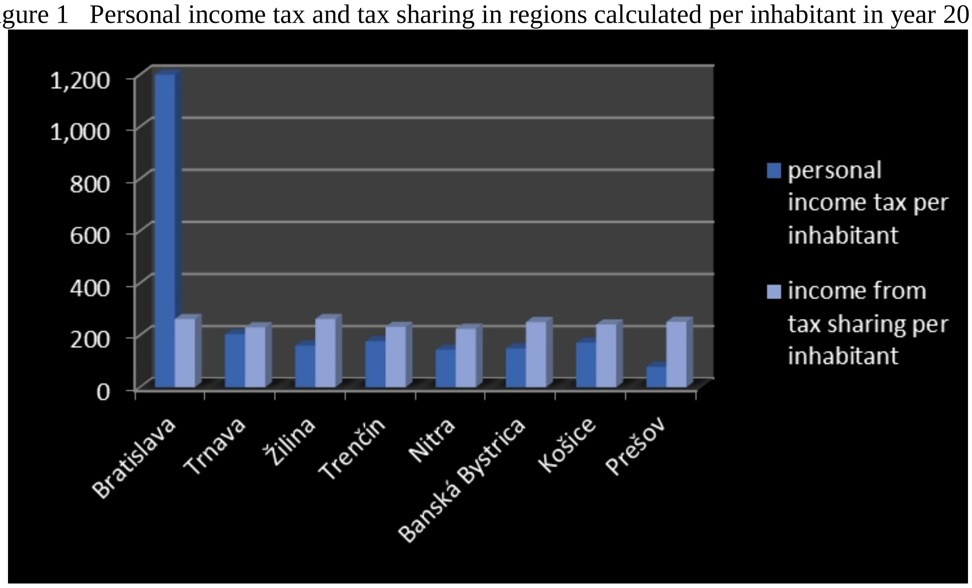
| Region | | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|
| Bratislava | personal income tax collected | 707 031 693 | 830 989 148 | 791 473 827 | 754 231 524 |
| | revenue from tax sharing | 173 992 347 | 211 639 792 | 200 528 965 | 164 800 934 |
| | % tax sharing revenue on personal income tax | 24,61% | 25,47% | 25,34% | 21,85% |
| Trnava | personal income tax | 132 215 394 | 154 608 147 | 135 916 888 | 114 744 469 |
| | revenue from tax sharing | 137 393 480 | 164 895 519 | 154 981 107 | 129 406 745 |
| | % tax sharing revenue on personal income tax | 103,92% | 106,65% | 114,03% | 112,78% |
| Trenčín | personal income tax | 130 112 382 | 152 624 159 | 130 202 900 | 106 003 796 |
| | revenue from tax sharing | 153 949 401 | 181 935 379 | 170 189 031 | 138 857 999 |
| | % tax sharing revenue on personal income tax | 118,32% | 119,20% | 130,71% | 130,99% |
| Nitra | personal income tax | 113 490 405 | 136 426 738 | 122 217 521 | 101 833 368 |
| | revenue from tax sharing | 176 743 004 | 208 159 079 | 195 059 475 | 158 213 533 |

| | | | | | |
|---|---|---|---|---|---|
| | % tax sharing revenue on personal income tax | 155,73% | 152,58% | 159,60% | 155,37% |
| Žilina | personal income tax | 133 892 054 | 158 598 474 | 131 554 756 | 111 919 871 |
| | revenue from tax sharing | 189 014 496 | 226 774 201 | 218 429 955 | 182 796 310 |
| | % tax sharing revenue on personal income tax | 141,17% | 142,99% | 166,04% | 163,33% |
| Banská Bystrica | personal income tax | 106 400 658 | 127 583 780 | 111 424 285 | 97 374 988 |
| | revenue from tax sharing | 179 834 011 | 211 461 060 | 197 549 661 | 163 262 467 |
| | % tax sharing revenue on personal income tax | 169,02% | 165,74% | 177,29% | 167,66% |
| Košice | personal income tax | 153 980 685 | 179 860 340 | 149 848 903 | 133 460 236 |
| | revenue from tax sharing | 205 528 300 | 242 935 384 | 227 420 742 | 187 973 779 |
| | % tax sharing revenue on personal income tax | 133,48% | 135,07% | 151,77% | 140,85% |
| Prešov | personal income tax | 82 231 872 | 101 450 489 | 84 121 635 | 63 409 816 |
| | revenue from tax sharing | 220 249 187 | 261 378 364 | 246 336 352 | 203 153 855 |
| | % tax sharing revenue on personal income tax | 267,84% | 257,64% | 292,83% | 320,38% |
| TOTAL personal income tax | | 1 559 355 143 | 1 842 141 275 | 1 656 760 715 | 1 482 978 068 |
| TOTAL personal income tax sharing | | 1 436 704 226 | 1 709 178 778 | 1 610 495 288 | 1 328 465 622 |

Source: National Tax Office

Tax collection per capita in comparison with revenue from tax sharing in particular region calculated per one inhabitant is shown in the figure 1. The highest tax collection per inhabitant is in Bratislava region, followed by other regions where the situation is much more comparable. The worst situation is in region of Prešov where collected tax per inhabitant was only 78 EUR compared with revenue from shared tax more than 250 EUR. The figure shows that the redistribution has major effect on „poor“ regions as region of Prešov, followed by other regions where the coefficient reflecting the difference between tax collecting and real revenue from tax sharing is more than 1 (100%).

Figure 1 Personal income tax and tax sharing in regions calculated per inhabitant in year 2010




Source: National Tax Office

To sum up, the region of Bratislava is the region with the highest rate of urbanisation and the lowest unemployment rate together producing the highest regional GDP in Slovakia. This region is the main contributor to the fiscal equalization via personal income tax sharing. On the other hand the region of Prešov has produced the lowest GDP in comparison with other regions; also its GDP per capita has been the lowest. With the highest unemployment rate its collected personal income tax was only around one third of the average tax collection in all Slovak regions (when we abstract from tax collecting in the region of Bratislava, tax collecting in the region of Prešov was around the 60% of the average of all other higher territorial units). This region is the main receiver of the system, although all other regions belong to this category.

**Fiscal decentralisation and economic growth in regions**

Revealing the possible relationship between fiscal decentralisation and regional growth is an important issue in countries with centralized systems as well as for the countries with decentralized. Authors dealing with this topic have tried to determine the correlation between these two variables in different countries (developing, developed or just at particular states) and to find out which factors are significant or if there does not exist any relationship between these two variables (Table 3).

Table 3 Relationship between fiscal decentralization and regional growth

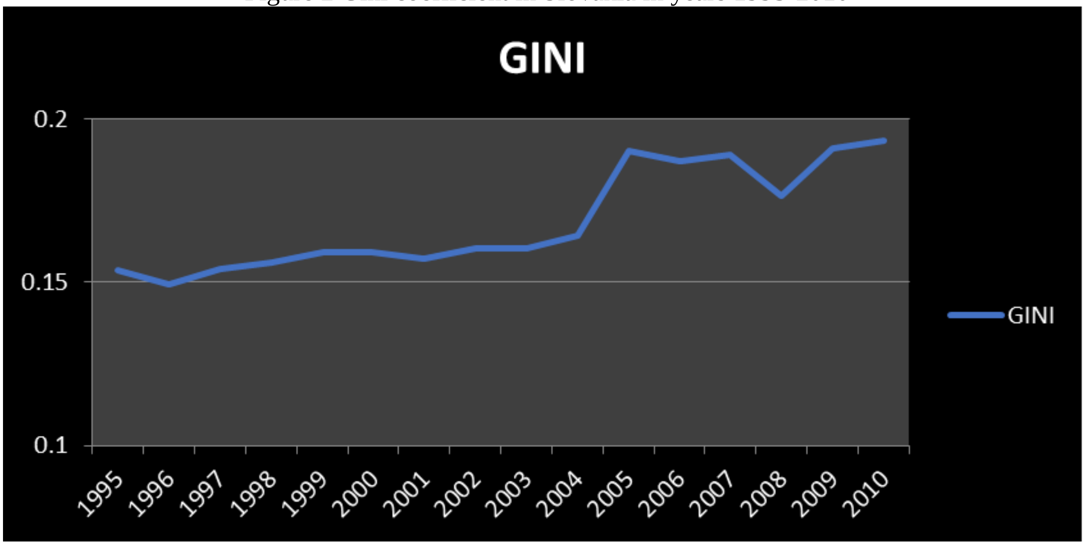
| **Author/Authors** | **The country observed** | **Relationship** |
|---|---|---|
| Akai, Sakata (2002, p. 104) | USA | - „fiscal decentralization contributes to economic growth, this paper suggests that recent moves toward fiscal decentralization by developed countries may stimulate their economic growth“<br>- 95% significance level |
| Breuss, Eller (2004, p.11) | 21 OECD countries | - „survey showed that there is no unambiguous, automatic, relationship between decentralisation and growth“ |
| Davoodi, Zou (1997, p. 255) | Developed as well as developing countries | - „developed countries are on average more decentralized than developing countries (33% vs. 20%) and tend to have a higher per capita GDP growth rate (2% vs. 1.6%)“<br>- „we find a negative relationship for developing countries and the world, and none for developed countries“ |
| Jílek (2008, p. 13) | Czech republic | - „transfer revenues of higher territorial units have implicitly redistributive character and their influence on the regions is asymetric“ |
| Shahdani, Komijani, Vafa, Fard (2012, p. 79) | Iran | - “there is a statistically significant direct relationship between expenditure decentralization and and growth per capita GDP“<br>„ there is a negative and near significant relationship between revenue decentralization and income distribution between over 2001-2008“ |
| Siničáková (2010, p. 899) | Developing countries<br>Developed countries | - „non-significant or negative relationship“<br>- „statistically significant correlation“ |
| Thornton (2006, p. 68) | 19 OECD countries | - “when revenue decentralization is measured by only those own-revenues over which sub-national governments have full discretion, fiscal decentralization does not appear to effect economic growth in mid to high income countries” |
| Zhang, Zou (1998, p. 236) | China | - „the negative association between fiscal decentralization and provincial economic growth has been found to be consistently significant and robust in China“ |
| Bodman, Heaton a Hodge (2009, p. 7) | Australia | - „the impact of fiscal decentralisation in the Australian context is not straightforward, but that there is some support for positive effects of Australia’s large vertical fiscal imbalance, centralisation of taxation powers and decentralised expenditure patterns“ |

| | | |
|---|---|---|
| Rodrigez-Pose, Kroijer (2009, p. 29) | 16 countries of middle and east Europe | - „expenditure at, and transfers to, the subnational level have had negative correlation with national growth rates in CEE, while locally imposed taxation has achieved some mildly positive economic benefits over time“ |
| Xie, Davoodi, Zou (1998, p. 238) | USA | - „we find that the existing spending shares for local and state governments are consistent with growth maximization“ |

Source: own work.

When determining the impact of the new system of subnational financing and horizontal fiscal equalization on regional development and assessing their effects on regional disparities the suitable indicator of regional development measuring has to be found. Despite criticism we decided to work with the regional GDP/ regional GDP calculated per capita. The Gini index is a measure of inequality among all regions of a given country, the value 1 stands for the absolute inequality and the value 0 for absolute equality. We observed the regional GDP generated in Slovak regions in 1995- 2010 via Gini coefficient. As shown in Figure 2 a considerable change from the year 2005 was registered.

Figure 2 Gini coefficient in Slovakia in years 1995-2010




Source: own work

Despite the value of Gini coefficient has increased after the year 2005, to confirm the unambiguously negative effect of the fiscal decentralisation process on the horizontal balance many other factors have to be considered (not only the correlation).

**Conclusion**

The process of fiscal decentralization could be seen as application of the “firm conditions” to the subnational governments, when each local/regional government is responsible for the financing of its responsibilities on the one side but it also has enough fiscal resources to ensure adequate funding of services. Setting up the extent of decentralized revenues reflecting the extent of decentralized expenditure is a sensitive issue that has to take into account demographic, social, geographical and economic conditions of the particular region. The horizontal fiscal equalisation is based on the solidarity principle and tax sharing arrangement taking a number of need criteria into account. Measuring interregional imbalance by the Gini coefficient showed a visible change since the year 2005 when new system of subnational governments has been applied. Anyway, further analysis would be needed to examine this relation more thoroughly.

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