

# International Finance Trilemma as a Tool for Balanced Development of an Economy

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International financial trilemma is a challenge of balancing the governmental policies ensuring healthy financial sector for facilitating economic development of a country. The scientific purpose of the paper is to develop a model of the international financial trilemma, defining the three key pillars of the international financial trilemma, the corresponding relevant metrics of economy, as well as describing expansion of financial technology as a disruptive element on a trilemma balance. Taking into account the experience of other researches of trilemma concept, analogically to the Energy Trilemma index, the authors developed the trilemma concept for the financial sector. The paper proposes determining the Financial trilemma index basing it on the following pillars: financial stability, financial inclusion and transparency. The authors analyse FinTech services as disruptive element affecting the International Financial trilemma index. As statistical basis of the financial trilemma and its building blocks the set of data from publicly available databases, such as the Global Competitiveness index, the Financial Development index, Global Findex and Doing Business is determined. The generally accepted quantitative and qualitative methods of economic science, inter alia comparative analysis, parameter estimation, grouping, economically mathematical modelling, synthesis, inductive, deductive and logically constructive methods have been used for the research. The financial trilemma index could be used as a tool for modelling an impact assessment of planned policy actions, as well as for developing determined steps for rising values of particular trilemma elements.

**KEYWORDS:** finance trilemma, financial inclusion, financial stability, transparency, economy.

The structure of a financial system of economy plays a crucial role for the development of a country and its international competitiveness. Politicians are struggling to find the right balance between the three mutual complementary and at the same controversial trilemma elements: availability of financial services to consumers, safety and stability of a financial system and transparency of financial flows reflecting the level of shadow economy.

Implementing a certain policy a country can achieve the corresponding results in each of the trilemma dimensions – either improve availability of financial resources to its citizens or strengthen the stability of financial system or ensure higher transparency of financial flows therewith fighting the shadow economy. However, policy actions focused on one target trilemma dimension could have a negative effect to one or even two other trilemma dimensions. Taking into account the strategic priorities, which might differ considerably due to a geographical region, political, economic and social background, policy makers strive for an optimal compromise between all the three dimensions.

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## Abstract

## Introduction



The scientific purpose of the paper is to develop a model of the international financial trilemma, defining the three key pillars of the international financial trilemma, the corresponding relevant metrics of economy, as well as describing expansion of financial technology as a disruptive element on a trilemma balance.

The idea of finding an optimal balance of the three trilemma elements therewith ensuring the biggest common value of the total economic and social benefit of a country, has been successfully applied in other sectors, for example, energy sector. Since 2010, 128 countries of the world have been evaluated according to the common methodology tracking the impact of the policies taken on the three biggest challenges in energy sector. The three trilemma dimensions characterize the performance of an entire energy system – energy security, sustainability and energy availability. The situation exposed by certain statistical factors shapes the World Energy Trilemma index (World Energy Council etc., 2019). The data on the factors is available in reliable, globally known databases; respectively, the combination of the factors can serve as a trustful basis for the further analysis of the situation at a given moment, as well as trends. Another example of application the trilemma concept is proposed in construction sector, looking for the most optimal balance between district heating systems of historic buildings, bioeconomy and energy efficiency (Blumberga A., Freimanis R., Muižniece I., etc. 2019). Moreover, the monetary trilemma is focusing on the equilibrium between independent monetary policy of an economy, free capital flows and exchange rate stability (Rieber, 2017).

Taking into account the experience of other researches of trilemma concept, analogically to the Energy Trilemma index, the authors developed the trilemma concept for the financial sector. The paper proposes determining the Financial trilemma index basing it on the three pillars: financial stability, financial inclusion and transparency.

As statistical basis of the financial trilemma and its building blocks the set of data from publicly available databases, such as the Global Competitiveness index, the Financial Development index, Global Findex and Doing Business is determined.

The generally accepted quantitative and qualitative methods of economic science, inter alia comparative analysis, parameter estimation, grouping, economically mathematical modelling, synthesis, inductive, deductive and logically constructive methods have been used for the research.

### The general concept of Financial trilemma model

The trilemma concept has been used in various different fields of research. For instance, the impossible trinity or the trilemma is considered to be a fundamental contribution of the Mundell-Fleming framework. The trilemma assumed that a country may simultaneously choose any two, but not all of the following three policy goals – monetary independence, exchange rate stability and financial integration (Aizenman, 2010). Another example of application of the trilemma concept is the energy field. The World Energy Council considers energy sustainability to be defined by the three core dimensions – energy security, energy equity, and environmental sustainability. Together, they constitute ‘trilemma’, and achieving high performance on all the three dimensions entails complex interwoven links between public and private actors, governments and regulators, economic and social factors, national resources, environmental concerns, and individual consumer behaviours (World Energy Council, 2019). It is important to emphasise that the energy trilemma is not supposed to be an “impossible trinity”. It is rather a balanced combination of three the most important factors with the country context added. Similar approach is applied for the trilemma in construction sector focusing on the best total outcome of cost and energy efficiency and bioeconomy of materials meeting the restrictions of district heating systems in historic buildings (Blumberga A., Freimanis R., Muižniece I., etc. 2019). The main challenge of the monetary trilemma also finds itself in defining the best common value for the economy

weighting different intensity of (in)dependency of monetary policy, freedom of capital flows and exchange rate stability (Rieber, 2017).

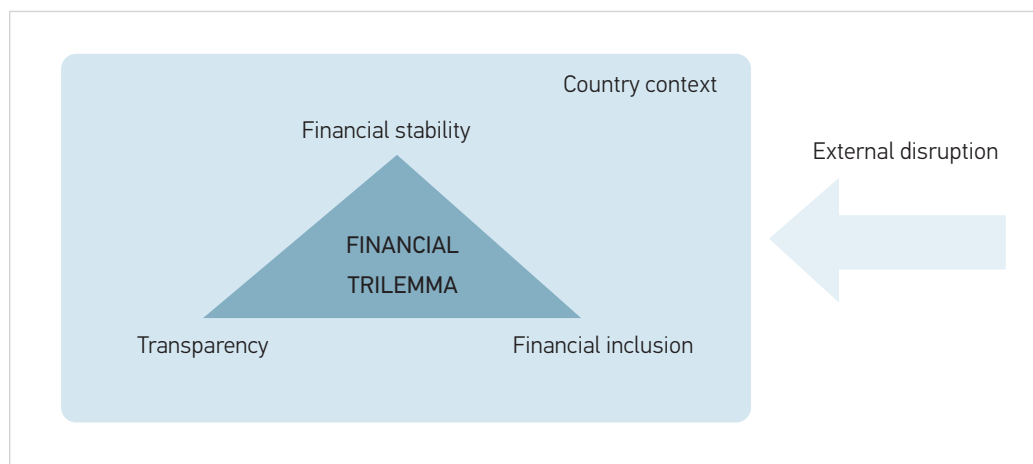
The authors of the research propose the Financial trilemma, which is designed in a similar approach as the Energy trilemma, namely, by representing a balance of the three most important factors and the country context added. The balance of the trilemma dimensions changes due to external shocks or policy taken by the country. At the same time, the vulnerability of a financial system towards influences depends on country basic characteristics or country context – macroeconomic stability, governance or efficiency of public sector and stability for investment and innovation. The research proposes to build Financial trilemma on the three key pillars: financial stability, financial inclusion and transparency.

Availability of capital is recognized as one of the basic factors for economic development. According to the classical economic development theories, GDP growth strongly depends on capital availability. New investments increase national production volumes, facilitating respectively economic growth (O.Bogdanova, 2012).

Financial stability closely correlates with banking operation. Financial policy defines availability of money in economy, inflation rate, currency exchange rate, stable capital flows and other important indicators encouraging either savings or spending. The regulated and coordinated banking facilitates economic growth by dampening the negative impact of volatile capital flows. Together with financial intermediation services (ensuring risk sharing, capital for investments, pooling savings etc.) financial stability ensured by banking regulation and supervision affect all finance-dependent sectors of an economy. (K.C.Neanidis, 2019)

Moreover, if capital is not well supervised and managed, the risks of shadow economy considerably increase (G.Buchak, G.Matvos, T.Piskorski, 2019)

Figure 1 demonstrates the schematic structure of the Financial trilemma concept developed in the paper.



**Figure 1**

General concept of Financial trilemma (authors)

**Financial stability** can be defined as “a condition where the financial system – comprising financial intermediaries, markets and market infrastructure, is capable of withstanding shocks and the unravelling of financial imbalances, thereby mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities” (European Central Bank, 2019). In the same report the European Central Bank defines financial stability via angles of economic growth, return on equity of banks as well as financial market returns. The International Monetary Fund (Inter-

national Monetary Fund, 2019) describes financial stability by using six dimensions, respectively, financial markets conditions, corporate environment, institutional investor challenges (in particular the light of falling interest rates), increase of debt in emerging and frontier markets, dollar funding of banks and sustainable finance. Another framework for viewing financial stability is the one comprising real economy, corporate sector, household sector, external sector, financial sector and financial markets (Gadanecz, Jayaram, 2008). Taken into account the previous research on financial stability, the authors define it as a well-balanced outcome of a financial sector, real economy and financial markets. Specific indicators for each of these components are provided in chapter 2, [table 1](#).

**Availability of financial products and services (financial inclusion):** well-functioning financial systems serve a vital purpose by offering savings, payment, credit, and risk management services and thereby contribute to economic development. Inclusive financial systems are those with a high share of individuals that have an access to financial services (World Bank, 2014; Demirgüç-Kunt, Klapper, and Singer, 2017). There is a growing number of empirical literature that documents the potential development benefits of financial inclusion, especially from the use of digital financial services, including mobile money services, payment cards, and other financial technology applications (World Bank, 2019).

An account ownership serves as an entry point into the formal financial sector. The existence of account makes it easier to transfer wages, remittances, and government payments. It can also encourage saving and open access to crediting. The fact of having an account is therefore often used as a marker of financial inclusion (World Bank, 2019). However, account availability is not a sole comprehensive indicator for a financial inclusion. Since financial inclusion is about savings, borrowings as well as payment services, the authors of the research consider several elements of the financial inclusion (i.e. daily financial services, investments and savings, lending, bank branch network density), which are supposed to cover nearly all the basic financial needs of customers.

However, *transparency* could be generally characterised by the three main principles: first, disclosure that demonstrates the quantity of available information; second, clarity reflecting the coherence of information; and third, accuracy showing the correctness of information. (Schnackenberg, 2009) Transparency of financial flows is an important tool eliminating possibilities for financial crime and money laundering. Typical bank transfers make visible the details of a payment and the corresponding beneficiaries. Nevertheless, there are several reasons why persons might be interested in hiding the track of their financial flows, for example, avoiding payment of taxes, avoiding certain legal standards of business activity by performing an illegal activity or violating rules of a business activity (e.g. on working conditions, such as minimum wage) or avoiding certain administrative procedures (Schneider, Buehn, 2017). As cash belongs to a person who holds it, cash is considered to be a substantial shadow economy facilitator. According to the European Police Office research, the increase of overall value of euro banknotes exceeds the level of inflation and is three times more than the amount of money needed for economic performance. Cash ensures an excellent opportunity to conceal the origin or true ownership of the capital, keep the control over the capital, change the form of the capital to cash or enable a prohibited activity (European Police Office, 2015). Due to the development of new technologies, innovative financial technologies or Fintechs are becoming a sound partner of cash contributing to non-recordable transactions (more information on Fintechs is provided in chapter 2). FinTechs refer to the entities applying innovative technologies that compete with the traditional financial institutions in delivering financial services. Wider use of smartphones for mobile banking, investing services and cryptocurrencies are the manifestations of FinTechs aiming at improving accessibility of financial services for a broader society (Davradakis, Santos, 2019).

Currently, the virtual transactions using Fintechs usually have their exposer in cash interaction – paying in or cashing out. The recent developments demonstrate that Bitcoins selling offers for cash are becoming rather popular. Some of the traders are willing to trade Bitcoins even up to EUR 500 000 in cash. However, in the future with the further expansion of the internet-based commercial world, Fintechs could start operating only within closed internet environment without cash-connection the physical world. (European Police Office, 2015) To statistically characterise the level of transparency the authors of the article propose to use the Schneider index of the shadow economy being annually published for 158 world countries according to the methodology of Leandro Medina and Friedrich Schneider (Medina, Schneider, 2018). Taking into account the fast development of technologies and constantly growing share of Fintechs users, the authors propose using also other factors of transparency, such as number of adults with an account paying utility bills in the past year in cash and adults without an account owning a mobile phone (Demirgüç-Kunt, A., Klapper, L. and Singer, 2017). The two mentioned factors demonstrate the correlation between the use of electronic means and an intense of cash use.

**Country context** or the basic characteristics of economy is an important background information to reflect the sensitivity of trilemma elements towards external shocks or disruptions. The authors of the research propose a scope of factors to a considerable extent shaping the macroeconomic stability of a country presuming them being dominantly relevant for further analysis of the correlation between disruption shifts and changes in trilemma balance. The set of criteria has been defined based on the analysis of theoretical and practical works on socio-economic processes of an economy (Bogdanova, 2012), at the same time being relevant to the object of the current research. The list of the criteria is available in [table 1](#) of chapter 2 and explained further in the text.

GDP growth is included among the county context criteria, as it demonstrates the potential volume/ trend of demand for financial products. In case GDP growth is high, external shocks would have less negative impact on the existing eco system of the financial sector. For example, most probably, the appearance of additional financing possibilities will not push other financial products out of the market, but will cover an additional demand for financing. At the same time, a moderate GDP growth could be the result of prudent banking policy not willing to invest in high-risk business activities.

GDP per capita demonstrates sensitivity of a country towards the increase of capital/ financial product prices. In case GDP per capita is low, higher financial product prices (due to high-risk investments) cause considerable barrier for financing businesses activities and are problematic for economy.

Inflation rate predefines expectations of a market and health of economy. It is considered that the beneficial for a growth of economy inflation rates are between 0.5% and 4% (World Economic forum, 2019)

The government debt dynamics categories are based on the three criteria: general credit rating, government debt-to-GDP level, and country classification (1 if country is considered advanced, 0 otherwise, according to IMF's classification). The general credit rating for each country is computed as the average of Fitch, Standard and Poor's (S&P) and Moody's credit ratings. (World Economic forum, 2019).

Unemployment rate – correlates positively with shadow economy, business activity, access to capital, etc.

Governance – demonstrates the effectiveness of public sector and existing regulation of a country resulting in attractiveness of the business environment. The authors propose to use the Doing Business index, which covers the most important fields of regulations and their enforcements of 190 different economies (World Bank, 2020).

Stability for investment and innovation is an important factor characterising the potential willingness of a country to promote innovations and invest in business development in a certain economy. The authors propose to use the Global innovation index to reflect the innovation-driven performance of a country. (Cornell University etc., 2019)

The scope of the mentioned above criteria is highly important while thoroughly analysing the key indicators predefining the trilemma elements.

## Financial trilemma index

A comprehensive analysis of any economic factor requires tracking the trends within certain period and making benchmarks of the developments with other economies.

The Financial Trilemma index highlights the performance of the indicator of the Financial Trilemma model. The authors apply analogical approach as in Energy Trilemma index, granting an equal weight of coefficient 0,3 to all the three trilemma elements – availability of financial products and services, financial stability, financial inclusion and country context, as well as the coefficient 0,1 to the context factor. In defining the coefficients for the Financial Trilemma index, the authors applied a similar approach as in Energy Trilemma index. It is important to ensure the same weight coefficients for each of the trilemma elements incorporating in the trilemma index equation the principle that all the three dimensions are equally important. Moreover, the trilemma elements should dominate above the context criteria as the Financial Trilemma index is focused primarily on the processes around financial inclusion, financial stability and transparency. Financial trilemma index is expressed by the following equation:

$$FTI = 0,3 * I + 0,3 * S + 0,3 * T + 0,1 * C \quad (1)$$

where: *FTI* – Financial trilemma index; *I* – Financial inclusion;  
*S* – Financial stability; *T* – Transparency; *C* – Country context.

Financial Trilemma index elements have been measured by 21 factors, which are grouped into 11 categories. One of important preconditions for selecting the given factors for the methodology is possibility to simply trace the value of the factor calculated by the same methodology within a given period of time. In case there are several factors relevant for one category, they are included in the algorithm splitting the value coefficient proportionally.

Since factors are originally expressed in different units, a data normalisation technique will be used in order to enable comparability of the factors within the categories as well as comparability of categories within the elements and finally comparability of the elements within the trilemma. The factors will be normalised according to the formula 2 provided below:

$$F_{inorm} = \frac{(F_i - F_{min})}{(F_{max} - F_{min})} \quad (2)$$

where:  $F_{inorm}$  – Normalised factor *i*;  $F_i$  – Factor *i*;  
 $F_{min}$  – Minimum value of the factor;  $F_{max}$  – Maximum value of the factor.

In case a positive value of a factor causes a negative impact (eg., volatility, Government deficit and debt etc.) on the trilemma element, the factor value will be transformed by dividing 1 with the actual factor value.

The final score of the trilemma will be calculated as the weighted sum of all its elements. Consequently, the highest trilemma score should be interpreted as the most favourable in general while the lowest score should be treated as the least desirable.

**Table 1** outlines the components of the Financial trilemma index according to the relevant factors highlighted in chapter 1 of this paper classified in categories and weighted respectively by impact indexes. In addition, it also reflects the sources of information the authors propose to use for calculating the index for a given economy. **Table 1** systemizes the information on the idea of the key trilemma elements described previously in the article, transposing it into countable form.

Element of Index	Impact index	Category	Impact index	Factor (source of information)	Impact index
Financial inclusion	30%	Daily financial services	10%	Share of adults with cash accounts ( <i>Global Findex</i> )	5%
				Share of adults making or receiving digital payments ( <i>Global Findex</i> )	5%
		Investments and savings	5%	Share of adults saving any money ( <i>Global Findex</i> )	5%
		Lending	5%	Domestic credit by the financial sector, % of GDP ( <i>World Bank</i> )	5%
		Bank branch network density	10%	Financial Institutions Access index - FDI, bank branches per 100000 adults and ATMs per 100000 adults ( <i>World Bank</i> )	10%
Financial stability	30%	Financial sector	15%	Banking sector net interest margin, lending-deposits spread, return on assets, return on equity ( <i>World Bank</i> )	5%
				Banks' capital cushion size to address expected or unexpected losses ( <i>Bank for International Settlements</i> )	5%
				Ratio of banks' readily available short-term resources that can be used to meet short-term obligations ( <i>Bank for International Settlements</i> )	5%
		Financial markets	15%	Change in Equity Indices ( <i>Bloomberg or equivalent</i> )	5%
				Corporate bond spreads ( <i>Bloomberg or equivalent</i> )	5%
				Volatility ( <i>Bloomberg or equivalent</i> )	5%
Transparency	30%	Cash flow	15%	Adults with an account paying utility bills in the past year in cash ( <i>Global Findex</i> )	7%
				Adults without an account owning a mobile phone ( <i>Global Findex</i> )	8%
		Shadow economy	15%	Schneider index ( <i>Schneder</i> )	15%
Country context	10 %	Macroeconomic stability	4%	GDP growth	0,5%
				GDP per capita	0,5%
				Inflation	1%
				Government deficit and debt	1%
				Unemployment rate	1%
		Governance	3%	Doing business index ( <i>Doing Business</i> )	3%
		Stability for Investment and Innovation	3%	Global innovation index ( <i>Global innovation index</i> )	3%

**Table 1**

Methodology for calculating the Financial Trilemma index

The country context is assessed by a weighted basket of the basic eight indicators described in chapter 1, namely, GDP growth and per capita, inflation, government deficit and debt, unemployment rate as well as indices such as doing business and global innovation index. The composition of indicators resembles quite closely methodology applied by international credit rating agencies to assign sovereign ratings. As extensively studied by the researchers Arefjevs and Braslins (Arefjevs, Braslins, 2013), such indicators are GDP per capita, inflation rate, GDP real growth rate, development indicator, default indicator, external debt-exports ratio (this variable is only relevant for developing countries), and government deficit as a percentage of GDP. Most of these indicators were included in the macroeconomic stability section of the trilemma's country context while a development indicator was replaced by two above-mentioned indexes (i.e. doing business and global innovation indices).

The authors propose to use the given in the [Table 1](#) factors to illustrate the key elements of the index and the categories of factors they consist of. However, in case data of a factor is not available, it could be substituted with another factor with similar characteristics.

### External disruption

An equilibrium between the elements of the Financial trilemma is to be changed in case external factors affect the situation. After disruptive impact, the trilemma finds a new equilibrium; however, particular key elements could be touched differently.

Nowadays, financial systems have been affected by rapid evolution in terms of costs and capability of technologies, as well as new business models, policy changes and shifts in societal behaviour. While some sectors are converging, others are emerging and the commercial value of business is shifting within as well as in and out of industries. Incumbent players are looking for reinventing themselves while non-traditional players are entering the fray.

A process where keeping the *status quo* is a change by itself, a process often ignited by the shifts in technology, society, policy and business models is called – disruption. Disruptions are unavoidable, they became the central element of modern business life. Therewith, an important question the policy makers have to answer is how to benefit from the disruption or how to prevent economies from their possible harmful influence.

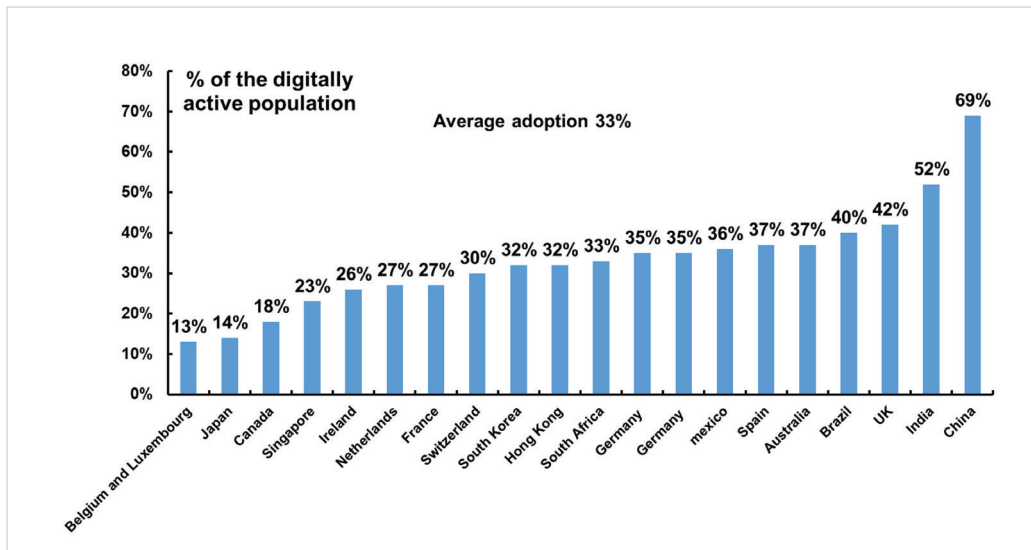
The millennials, the generation born in 1981–2000, use technologies, collaboration and entrepreneurship to create, transform and reconstruct entire industries. Similarly, the new generation of consumers have substantially different expectations from the markets than their predecessors. The demand of millennials for financial services has other preferences as well. On the one hand, the traditional banks and financial institutions are often treated with contempt by millennials, since they are considered as a source of obsolete tradition and inefficiencies (Davradakis, Santos, 2019). On the other hand, the classical financial institutions evaluate young entrepreneurs with a higher risk due to a lack of life experience and business maturity.

The banking sector is facing transition from the model of closed relations between banks and their customers based on peer-to-peer communication to the open-relations-system model, where plenty of customer data is available in public registers. Customers ensure to financial institutions a reach scope of data starting from the demographic-related information, such as age, residence, employment and family status to the financial information on personal assets, savings, income and expenses. The broad data availability accelerates demand for financial technologies (Davradakis, Santos, 2019).

The research considers (as a disruption) ensuring or increasing availability of Fintechs in a given economy. Currently, the intensity of use of the FinTech services differs significantly between geographical



regions and countries. According to the study of the European Investment bank analysing 20 different markets, the number of Fintechs' users varies from 13% of the digitally active population in Belgium and Luxembourg, till 69% in China and in 52% India (Figure 1). (Davradakis, Santos, 2019).



Source: Ernst&Young (2009)

Financial technologies demonstrate spectacular adoption rates for the key groups of services ranging from 75% for money transfers and payments at the top and scoring 27% (or more than 400% growth in five years) for borrowings products. (Ernst&Young, 2019).

Despite an intensive progress in affordability of basic financial services, globally about 1.7 billion of adults still remain unbanked. The account ownership is ensured almost overall in high-income economies; nevertheless, the majority of unbanked adults live in the developing world (World Bank, 2019). With such a significant rate of financial exclusion in the developing world, FinTechs and telecommunication companies play an important role filling in the financial isolation gap by providing mobile money and other FinTech services. Table 2 classifies FinTech services according to categories.

Category	FinTech services
Money transfer and payments	Online foreign exchange, overseas remittances, digital-only branchless banking, peer-to-peer payments and non-bank money transfers, in-store mobile phone payments, cryptocurrency eWallet
Budgeting and financial planning	Online budgeting and financial planning tools, online retirement and pensions management tools
Savings and investments	Lending on peer-to-peer platforms, investments via crowdfunding platforms, online investment advice and investment management, online stock broking, online spreadbetting
Borrowing	Online-only loan providers, online marketplaces and aggregators for loans, online loan brokers and broker facilitation websites
Insurance	Insurance premium comparison sites, insurance-linked smart devices, app-only insurance

Source: Ernst&Young (2019)

**Table 2**

Taxonomy of FinTech services

The FinTech services reflected in [table 2](#) provide a solution to the problem of missing infrastructure via mobile banking and agent banking. Namely, in case of agent banking the financial service is provided by the third parties, for example, shops, service stations and post offices engaged in delivering the financial services on their behalf. (Davradakis, Santos, 2019). Low-income people make the majority share of the unbanked in Europe and Central Asia. Half of all the unbanked adults are from the poorest 40 percent of households in the region. (World Bank, 2019).

The rate of account ownership is another criteria indicating access to the classical banking services. It varies across the member states of the European Union significantly. In Western European countries, such as France, Germany, and the Netherlands, the account ownership is considered to be virtually universal. The account ownership ratio is lower in some Eastern and Central European economies. The share is roughly 80 percent in the Czech Republic and the Slovak Republic and about 75 percent in Bulgaria and Hungary. In Romania, just 58 percent of adults have a bank account, which is the lowest share in the European Union. (World Bank, 2019).

### Impact of FinTech services on Financial trilemma

An impact of the FinTech services on economy of a country is not unequivocally clear. The main advantage the FinTech services ensure is a wide availability of financial resources which are highly important for the development of any business. As it was already mentioned, the FinTech services fill in the gap of missing supply on the market of financial services therewith fertilizing commercial initiatives providing them financing.

At the same time, due to the technological possibilities and relatively under-regulated legal environment the FinTech services allow to their clients considerably more freedom for action ensuring less tracking and reporting requirements and, therewith, less transparency of transactions. Next to the advantage of simplicity and affordability of the FinTech services for consumers stands the challenge of governments for eliminating possibility for money laundering, tax avoidance and other illegal activities being strongly addressed by the classical banking sector.

Moreover, FinTechs may undermine financial stability directly or indirectly by triggering a disintermediation of regulated entities that are providing the FinTech services (Financial Stability Board, 2017). There are two broad risk types that FinTechs may encounter, namely, the financial and the operational risk. The financial risk includes potential mismatches of maturity and liquidity and leverage. Maturity mismatches are relevant for Fintechs ensuring lending as their main activity.

Moreover, Fintechs are subject to the operational risk that may rise from information systems, human errors, management failures and external influences. The governance control risks are higher if the Fintech services are provided by the third parties to the regulated financial institutions, when they may be not a subject to the same level of oversight or scrutiny of their governance and business processes to which regulated financial institutions are. (Davradakis, Santos, 2019).

The total effect of a given disruption element entering the financial eco-system of a country could differ from country to country. The model developed within the research ensures possibility to evaluate the impact of a disruption on the Financial Trilemma expressed by the set of criteria, which should be screened for a change after the disruption appears. Correspondingly, for example, in a country with a very developed banking sector and high availability of financial services appearance of the FinTech services would decrease the values of transparency and financial stability criteria without adding considerable value to the criteria of financial availability. However, in a developing country, by entering the market FinTech services would rise the total score of Financial trilemma index, by substantially improving availability of financing without harming much to already shaky financial stability and foggy financial transparency.

An economic system of a country is a complicated mechanism consisting of various mutually dependent factors. Healthy functioning of the financial sector being able to satisfy customer needs plays a crucial role in development of economy. International finance trilemma comes upon the key elements addressing the main challenges of the financial sector – financial availability, financial transparency and stability of the financial system. As a result of the research the authors provide their vision for the components of the financial trilemma index delivering the pyramid of the factors shaping the input data for the index. The financial trilemma index is a tool characterising the financial system of a country regarding its possibilities to facilitate economic development. The Fintech services bring a considerable breakthrough to the financial ecosystem affecting each of the financial trilemma elements of a country. Up to the background disposition and the existing set of the trilemma of a country, the same disruption (e.g. the Fintech services analysed in the research) could have different socio-economic reflection. The financial trilemma index is an analytical tool, which could be used for modelling an impact assessment of indicated disruptions, such as appearance of the Fintech services in economy, for testing the policy actions planned, as well as for the developing of focused actions for rising values of particular trilemma elements.

## Conclusions

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