

Answers of the European Financial Congress¹ in relation to the Financial Stability Board's consultative document on the effects of financial regulatory reforms on infrastructure finance²

Methodology for preparing the answers

The answers were prepared in the following stages:

Stage 1

A group of experts from the Polish financial sector were invited to participate in the survey. They received selected consultation questions from the FSB's consultative document translated into Polish. The experts were guaranteed anonymity.

Stage 2

The survey project coordinators from the European Financial Congress prepared a draft synthesis of opinions submitted by the experts. Responses were obtained from over 20 board members, directors and independent experts representing:

- commercial and development banks,
- investment and development funds,
- the academia.

The draft synthesis was sent to the experts participating in the survey with the request to mark the passages that should be modified in the final position and to propose modifications and additions as well as marking the passages they did not agree with.

Stage 3

On the basis of the responses received, the final version of the European Financial Congress' answers was prepared.

¹ European Financial Congress (EFC – www.efcongress.com). The purpose of the EFC is to promote debate on how to ensure the financial security and sustainable development of the European Union and Poland.

² <http://www.fsb.org/wp-content/uploads/P180718.pdf>

Answers of the European Financial Congress to the consultation questions

Q3. Project finance vs corporate finance: What have been the main factors that explain the recent growth in corporate relative to project finance in IF?

The main factor that explains the recent stronger growth in corporate finance is a less expensive, less risky and simpler financing model, which is based on less complex documentation requirements. Not only does it offer access to a broader scope of potential sources of funds for purposes of repayment of debt owed to the bank but it is also easier to analyse a corporation's credit history than to evaluate financial projections prepared for a new project. In the majority of cases, no specific financial ratios that determine the capacity to service debt or strict contract clauses have to be complied with. If and when needed, project financing may be supported by the entity's overall liquidity, which mitigates the risk of financial exposure but is more difficult and less common in the project finance formula. In the context of the favourable economic conditions in Poland, the resulting relatively good financial standing of enterprises as well as the comparatively easy access to cheap corporate finance structures, this form is much more popular on the Polish market. The process of securing funding is less complicated, which is due to the fact that currently banks demonstrate greater capabilities and have more extensive transactional experience related to the provision of on-balance sheet loans, where the cost of funding is lower, the collateral requirements are more lenient, while the cost of its pledging, maintenance and periodic reporting is not as high. On-balance sheet loans may also be preferred where the tenor is excessively long, which is unacceptable to banks and requires a considerable contribution from the project sponsors. Corporate finance requires a good financial standing of the customer although the credit capacity (amount of debt that an entity can be expected to assume) is lower. As far as smaller-scale investment projects are concerned, the credit capacity of business entities to assume on-balance sheet debt is typically sufficient and, consequently, there is no need to use project finance solutions, which is more convenient to both sides. Public investment as well as projects carried out by central government institutions or large state-owned entities typically rely on on-balance sheet borrowing as such parties may easily secure long-term debt on favourable terms. In this formula, the entity on whose risk financial institutions rely is of key importance. It may be an enterprise, its business or investment projects.

Project finance structures are based on the commercial risk of the project as opposed to the credit strength of the entity, even if sponsors with a very good credit quality are involved. This formula is considerably more demanding, complex and costly, which is due to higher costs of the financing itself and of analytics. Therefore, in order to ensure that it pays off from the perspective of the investor, a sufficient scale of financing is necessary. This, in turn, involves a higher risk, as it does not rely on historical data but on projections, which are not that certain. Collateral includes project-related assets only. In contrast, the on-balance sheet formula enables the use of a wide spectrum of both tangible assets and intangible rights which are recognized on the balance sheet. It is not possible to assign a credit risk rating to the financed entity, as it is a special purpose vehicle without any credit history. Debt may only be repaid

using cash flows generated by the project in question, which are exposed to the construction risk (development of assets) and operational risk (business activity). On the other hand, the financing may be structured off the balance sheet, which is a definite advantage, in particular for entities and projects whose leverage ratio is high. What is more, this formula provides the possibility to separate a specific project from the structure of the assets of the enterprise/project sponsor, thus limiting the banks' recourse to project-related assets, exclusively. Typically, the tenor is long, the payment date deferred and the uncertainty as to feasibility of the project and its potential to generate revenue more substantial. Both the investor and the bank are expected to be more business-savvy and demonstrate considerable experience, knowledge of financial engineering, the ability to identify and analyze risks and to allocate them to different parties. Thus, it is popular mainly in those countries where financial markets are considered to be fairly mature. The factors that limit the growth of project finance in Poland are relatively lower quality and maturity of the market and project sponsors, in addition to the uncertainty surrounding the regulatory environment. Application of the said formula not only requires stricter discipline in the preparation and implementation of a business plan but it is also based on the assumption that the capacity to generate cash flows and consistency of the actual project performance with the underlying projections will come under more rigorous scrutiny by financial institutions. Furthermore, the establishment of dedicated special purpose vehicles (SPVs) with the involvement of a number of different partners makes perfect sense where the investment project is large and complex. Public-private partnership (PPP) offers a considerable potential for growth of project finance in Poland. However, this model requires a substantial level of partner trust as well as stability in the regulatory and legal environment. Currently, no major PPP projects may be identified in Poland. A lack of established standards and experience coupled with conservatism of all parties have led to limited popularity of this instrument in Poland as compared to the European market. In Poland, project finance structures are frequently associated with central government investments or projects carried out by State-controlled corporations, with legal solutions or with potential regulatory changes which may pose a threat to the economics of the undertaking in the long run. The major threats are the economic policy risk and the resulting adverse regulatory changes. A long tenor in project finance transactions translates into elevated liquidity costs (thus, an increased cost of financing), exerting at the same time pressure on the profitability of funding, which may reduce the interest of commercial banks and give room to institutional investors. As far as project finance is concerned, banks are less willing to accept the construction risk and expect recourse to sponsors at least at the construction phase and at the time of initial operation. According to sponsors, banks expressing such expectations make in fact the project finance structure more similar to on-balance sheet loans (in terms of recourse and distribution of risks), but with higher costs of financing. One of the common growth barriers for corporate finance is the cost-effectiveness of the investment project, which for the vast majority of infrastructure investments is low and achieved in a considerably longer time horizon as compared to non-infrastructure projects, which, in turn, involves a more significant risk. When faced with the choice between the provision of funding for two different projects with the same yield, commercial banks clearly prefer those which entail a lower risk, i.e. projects characterized by a higher return and a shorter investment horizon, which reduces the uncertainty as to the result of

financing. Thus, selection of the corporate finance structure is frequently driven by the desire to mitigate the project risk, which is achieved by adding cash flows from operating activities of an existing, established entity to the available sources of funds that may be used in the future for purposes of debt repayment.

Q4. Search for yield: How important has the global search for yield been as a determinant of the growth in IF in recent years? Has search for yield behaviour been more apparent in specific sectors or regions?

Infrastructure investments may be divided into projects which are important to the economy as a whole (at the EU, national, regional or municipal level) and commercial ones. As far as the first group is concerned, decisions are made by public authorities (or other administrators of public funds), taking account of findings of economic analyses whose scope and evaluation criteria typically go beyond a strictly economic calculation and focus on other aspects of the project, such as its ability to drive growth of the region, meet the needs of local residents etc. Decisions regarding the second category of projects may also be taken on the basis of criteria other than those guiding the strictly economic calculation. This is due to the fact that commercial projects produce a number of different effects, some of which may be described by qualitative phenomena the value of which may be measured in monetary terms only to a limited extent. However, it should be emphasized that yield remains the key decision parameter considered by investors.

In Poland, special importance is attached to infrastructure projects implemented by public sector entities, both at the central government level and by local authorities. In such investments, which may not have a revenue model at all or whose revenue model may be limited (e.g. road, railway and other linear projects), the financial rate of return is not that important because investment-related decisions are aimed to maximize the summary economic and social benefits (economic rate of return). There is a large group of public investment projects where a yield may not be expected and which make use of public, including EU, funding. Even though such investments do not generate a financial rate of return (or the return is low as compared to the risk level), they guarantee an economic rate of return as they are crucial from the socio-economic point of view, essential for the security of the country or constitute critical infrastructure. As Polish experience shows, expectations as to the return on investment depend primarily on the revenue model profile, the project risk matrix and the contractual relations. On the other hand, yield diversification depending on the sector is relatively less important. For projects implemented in a single sector (such as road building and administration) in a public-private partnership formula, investors will typically expect a higher return from a transaction based on the traffic risk as compared to a transaction where availability payments due from the public partner constitute a source of the private partner's income.

As far as infrastructure finance is concerned, one may encounter a wide spectrum of investment projects with distinctly different characteristics and purposes. A strong pressure on the return

on investment is exerted in the case of projects aimed to finance residential property, office buildings and warehouse space. As regards public projects, to include road infrastructure, direct return on investment may be of secondary importance, while its benefits will frequently be dispersed and indirect. However, in other infrastructure projects, the same investor may take the yield into account if one of their objectives is to reduce the infrastructure operation costs (e.g. replacement of road lighting with energy-efficient solutions).

Regardless of the nature of public projects, the return on investment continues to be perceived as the most important and critical factor which is considered in the analysis of all investments spanning different sectors, in particular where external sources of funding are used, and it should offset the related risk. The return on investment depends on the risk inherent in the project, both for equity and debt investors. As a general rule, the higher the risk of the investment, the higher the expected return. On the other hand, Polish experience in the area of infrastructure finance shows that a focus on the price parameter only or its inappropriate determination may force construction companies that carry out infrastructure projects into bankruptcy.

For private investors, equally important as the expected return on investment is the probability that it will be achieved during the lifecycle of the project, especially as such investments extend typically over a long time horizon. Offering higher returns to investors through the enactment of appropriate regulations (e.g. certificates) naturally activates private equity, the use of which may accelerate the pace of bridging the “infrastructure gap” in selected sectors of developing economies, such as Poland.

Additionally, the return on investment is a major factor taken into consideration in most PPP projects with a relatively high share of private equity – directly in the form of equity interests or indirectly through infrastructure funds. Definitely more attention is paid to the return on investment in projects which are implemented with the objective to generate income on their operation, such as in the case of motorways, tunnels, wind farms etc. Global infrastructure funds analyze the rate of return in the long term and that rate (as opposed to analyses of project, regulatory, macroeconomic and political risks) is the key factor determining their participation in the provision of infrastructure finance in the country. Financial investors attach greater importance to the return on investment, as industry investors show more patience and are able to wait longer until the project produces the expected return. Typically, financial investors determine the period of their involvement in advance (three to five years) and expect a return at that time.

It should also be emphasized that the outsourcing of infrastructure facilities, including factory halls, warehouses and cargo handling terminals, has recently become a common practice. Users of such infrastructure may avoid investing their capital and, instead, engage developers who are ready to implement projects where the risk is covered only in part, by entering into long-term (10+ years) lease agreements for facilities constructed in the “turnkey” formula.

Q6. Regulation vs other factors: How do the financial reforms rank relative to other factors (e.g. macroeconomic and financial conditions, political risks, institutional impediments) in terms of their influence on IF?

Financial institutions have to comply with the regulations in force. Hence, they develop their credit policies, define their exposure limits and assess whether they may provide funding for individual projects in light of the applicable laws. Additionally, the analysis of each transaction takes account of the market conditions. Both these groups of factors are crucial. The macroeconomic situation, the financial terms of the project, the political risk and institutional requirements are reflected in the cost of financing. There is a level of risk which investors/financing institutions do not accept and where they are not willing to provide financing.

In general, the objectives and scope of the financial reform may imply the necessity for the investor to obtain additional consents, authorizations or licences required to carry out infrastructure projects. From the point of view of the financing entity, such a reform may impose restrictions on funding, such as concentration limits that have to be respected by financing institutions. Further capital requirements that are a burden for banks' assets with longer maturities do not encourage the involvement in infrastructure projects, which typically require financing in the long term. On the other hand, regulatory reforms may reduce some risks and thus contribute to the bankability of projects or reduction of the necessary financing costs.

Changes to capital requirements, liquidity ratios or taxes levied on banks have determined the financing options considerably due to the cost of liquidity and the required minimum rate of return on infrastructure projects. Regulatory reforms that introduce more demanding capital requirements increase the cost of liquidity incurred by banks, thus the cost of financing of investments, whereas changes in taxation affect the rate of return on assets.

As the economic conditions in Poland and globally are relatively favourable, it is regulatory reforms that appear to have been the crucial factor limiting IF over the past few years. They impose a growing number of obligations on financial institutions, the necessity to comply with which restricts the financing freedom. The tax on financial institutions in Poland constitutes another limitation. Other important changes are tax reforms (reverse VAT, split payment, escrow accounts), which may also determine the liquidity position of infrastructure market participants. Stricter regulatory requirements pose another challenge. Although apparently cost-free, in practice they generate a permanent stream of costs. Regulatory stability and clarity are yet another crucial factor considered by investors. Frequent changes increase the investment risk. The terms of cooperation with tax offices, transparency of regulations, ready access to information, ease of contact, "predictability" of interpretations (e.g. VAT in the real estate sector) are of cardinal importance to investors, especially in the context of the attractiveness of other markets which are frequently an alternative location for the investment. Besides their impact on costs, regulatory reforms also exert influence on the scope and process of the qualitative assessment of project sponsors. However, it is only in combination with additional obstacles (such as market and legislative environment uncertainty) that the effect of these regulations on

infrastructure finance activity may be examined. Regulatory reforms, in particular in the context of project finance transactions, have a substantial role to play in selected sectors of the economy, specifically the regulated ones, including power, water and sewage or waste management. All other factors (e.g. macroeconomic and financial ones) have a comparable impact on all types and forms of financing. The political risk in EU member states should be considered immaterial. But doubts over tax issues, such as VAT interpretations, may create considerable uncertainty at the investment process planning phase, also where the investors are representatives of the central government.

Banks have been forced to bring their operations into line with the new regulations and rearrange their capital structures, which has translated into a more prudent approach to capital management. It should be emphasized, though, that IF is treated as “safer” than other financing formulas (such as leveraged buyout) as the cash flows it generates are typically stable and predictable. Such aspects as the regulatory environment (and its stability) or political and macroeconomic conditions are extremely important as they affect the availability of bank financing. It should be borne in mind that cash flow projections in a longer term, which is typical of infrastructure projects, are only possible in a stable market environment.

Q7. Relevant reforms: Are Basel III and OTC derivatives market reforms the most relevant G20 reforms for IF? Which other reforms may also be relevant for the purposes of the evaluation?

Prior to the adoption of Basel III it was forecasted that stricter CAD, LCR and NSFR requirements would reduce the supply of loans and money, driving, as a consequence, a decrease in monetary aggregates, which was supposed to elevate margins and result in higher operating costs of banks. Information published by the Polish central bank (National Bank of Poland, NBP) does not support that view, though. M1, M2 and M3 aggregates have clearly been on an upward trend. Basel III is not the key factor considered in the IF decision-making process. Such decisions are influenced by the general policies adopted by banks, which are affected by the requirements to meet specific capital requirements. What matters more is the reforms of the national economic law as well as the government’s infrastructure investment policy.

Following the adoption of Basel III, commercial banks have been encouraged to use internal rating methods (IRB/AIRB) for purposes of calculation of their capital requirements. Reliance on IRB/AIRB with respect to the credit portfolio in whole or even in part allows banks some flexibility and may result in determination of more favourable (lower) credit risk requirements as compared to the standardized approach. Thus, on the one hand, the introduction of Basel III has necessitated an increase in the bank’s own funds, which may have had an adverse effect on the terms of financing. On the other hand, it has been accompanied by an approach aimed to increase the flexibility of capital requirement calculations by offering banks (which have satisfied a number of conditions) the possibility to rely on the internal rating method.

In Poland, one may observe a considerable interest of banks in the financing of infrastructure projects, whose number is seriously limited. It should be noted, though, that the scale of their interest depends on the quality of the project structure, in addition to investors offering banks a

sufficient degree of comfort as regards payment of project-related liabilities. However, one should not overlook the negative effect of sector regulations, including Basel III, on the availability of long-term (10+ years) project finance denominated in PLN in Poland. Only a few commercial and multilateral institutions are capable of providing such type of funding in Poland. It should be emphasized that, besides the regulations that have to be complied with by the financial services industry as a whole, national legislation applicable to individual sectors (such as the principles of tariffs' determination, costs eligibility and the return on investment in regulated industries) have an equally powerful, if not more considerable impact on the IF market.

The impact of the OTC derivatives market reform on IF is considerably smaller than that of Basel III. Having imposed more demanding capital and regulatory requirements, the latter has exerted direct influence on the lending activity of banks. The impact of the former depends frequently on the formula and currency of the investment. The ease of instrument clearing and the related requirements are particularly important where the currency of financing differs from that of debt. At the same time, the OTC derivatives market reform is a huge step towards rebuilding customer trust in financial institutions. The enactment of MIFID II as of the beginning of the year has considerably enhanced the transparency of derivatives sales and quoting practices. Consequently, it is much easier for financial institutions now to implement derivative instruments to IF projects where they actually ensure protection from unexpected FX and interest rate fluctuations. The importance of derivative instruments in the securing of funding is, in the case of IF, similar to other projects as they form an integral part of the financing and are used primarily as hedges against market risks.

Considering that the Polish banking sector is highly liquid and ready to finance infrastructure projects in the project finance formula, it appears that the overall regulatory and legal stability that ensures predictability of not only the legal and market frameworks but also of revenues and costs relating to a specific project, is equally important as regulatory factors that determine the cost of financing directly. It should be emphasized here that grants from EU structural funds represent the largest share of infrastructure finance in Poland. EU regulations have a tremendous influence on the implementation of infrastructure projects in Poland and on the development of Public-Private Partnership, which constitutes another essential element of such investments.

Q11. IF versus other types of finance: The evaluation's results suggest that financial reforms have not had a disproportionate effect on IF compared to other types of finance. Is this consistent with your view of the market?

In general, regulatory reforms have reduced bank's readiness to engage in infrastructure projects. They have not had a disproportionately high impact on infrastructure finance, though, despite the fact that they have affected, to some extent, long-term financing (liquidity requirements) for major projects (concentration requirements) implemented by unrated entities (elevated risk weights). All these characteristics are common for infrastructure projects.

Currently, the search for new financing formulas has led to a situation where the estimated annual shortage of critical infrastructure investments globally is USD 1 trillion a year (according to WEF). Thus, it may be assumed that investors from outside the banking sectors will expect higher rates of return than the banking sector itself, which may trigger an increase in the financing cost.

In the context of the Polish market, this has not materially reduced interest in project finance transactions but has influenced the cost of financing. As far as other financing formulas (corporate, investment, acquisition or working capital) are concerned, the average maturities are shorter, which makes them less prone to regulatory impact. Infrastructure finance in Poland is supported, to a considerable degree, by grants from EU funds, which are frequently non-refundable. Therefore, it is the major factor influencing the market and distorting purely market signals. What also matters to enterprises operating in the construction sector is regulations applicable to public procurement, which require greater consideration of non-price criteria as well as the possibility to transfer cost changes driven e.g. by increased prices of construction materials, to end customers. Where the amount of the loan is particularly high, calibration of credit risk models which are commonly used by large banks in advanced economies may also pose a challenge due to insufficient data. On the other hand, such projects are often supported by the State and government guarantees constitute an effective form of security, which, in turn, reduces considerably capital requirements.

Q12. Effects of G20 reforms on IF volumes, spreads and maturities: For the G20 reforms covered in this report (particularly Basel III and OTC derivatives), is there any additional information to support (or contradict) the results on the effects of these reforms on volumes, spreads and maturities of IF?

The Basel III reform may be considered to have had influence on costs, tenors as well as alternative investors and forms of investment. Financial institutions should reasonably be expected to require that the increased costs resulting from the implementation of regulatory changes and capital requirements be transferred onto obligors (increased cost clause). What matters from the point of view of borrowers is their symmetrical treatment by financial institutions, which means that where regulatory requirements applicable to specific financing are relaxed, the financing cost incurred by the borrower should also be lowered. One of the effects of Basel III may be the banks' expectation to reduce tenors, which, as far as infrastructure investments where a return is anticipated in the longer term (often beyond a 20-year horizon) are concerned, may have material adverse implications. If tenors are reduced substantially, the project will have to generate considerably higher cash flows so as to guarantee that the debt owed to the bank is serviced as appropriate. Should this not be possible due to the nature of the project, banks may expect a considerably higher contribution on the part of the project sponsor, which in turn reduces the attractiveness of the project from the ownership point of view, thus posing a risk that some projects may simply be discontinued. Hence, banks will probably have to propose some structures as an interim solution to enable the implementation of specific projects, such as:

- the semi-perm structures that should encourage the sponsor to refinance debt following the expiry of a specific period of time, based on the margin growth mechanism during the tenor;
- provision of medium-term financing with a large payment at the end of the tenor (balloon repayment) and transfer of the refinancing risk onto the project sponsor;
- provision of financing that uses the cash-sweep mechanisms which reduce the tenor effectively.

Basel III may result in the growth of alternative sources of funding, such as issues of bonds to be acquired by investors that finance specific infrastructure projects (project bonds). Such instruments are further gaining in popularity in the context of the measures employed by the European Investment Bank as part of the Europe 2020 Project Bond Initiative that allows to improve the rating of bonds.

Introduction of alternative instruments may also broaden the spectrum of entities that provide infrastructure finance in Poland, which in practice has traditionally been limited to bank borrowing. If a project is structured appropriately, bonds may be assigned a specific rating and represent an attractive instrument for entities which pay special attention to ensuring consistency of cash flows from an infrastructure project with the liabilities of the financial institution to its creditors (e.g. pension or insurance funds).

Reforms aimed to reduce the level of the systemic risk generate costs through margin increases. Thus, they raise the project profitability criterion, while restricting access to funding and determining the credit risk inherent in projects. Infrastructure finance in the project finance formula is long-term in nature, where banks prefer full debt amortization. More stringent capital requirements have an adverse effect on financial institutions' willingness to increase their assets. Such measures will clearly have a negative impact on prices and readiness to provide long-term funding. This is due to the necessity to achieve the expected rate of return on equity. Additionally, prior bank experience shows that long-term financing exposes financial institutions to the risk of further regulatory requirements being imposed. As Basel III has necessitated strategic allocation of funds, shorter maturities are preferable. In effect, 10-year tenors pose a major challenge to commercial banks and it has become very difficult to structure transactions with maturities exceeding ten years.

It is not easy to estimate the regulatory impact on transaction volumes precisely. Reforms have led to introduction of more demanding requirements of credit policies, in addition to triggering an increase in operating costs incurred by banks. This has not only reduced indirectly the volume of granted loans but also shortened their maturities. Elevated financing costs and shorter tenors reduce the rate of return on investment. Some projects may not be implemented as they do not guarantee the minimum rate of return for infrastructure investors. On the other hand, the banking market in Poland is highly competitive and liquid, while financing is readily available, especially for large and well-structured projects. Therefore, the effect of the

regulatory cost does not seem to be material, especially as infrastructure projects are in short supply.

In general, derivative instruments are used in infrastructure projects as hedges against market risks, in particular currency and interest rate risks. The changing regulations may increase uncertainty, which may lead to the shortening of tenors, reduction of the value of loans granted on an individual basis and the narrowing of spreads. Last year figures published by the Infrastructure Journal also confirm the existence of such phenomena. However, one may not state clearly whether it is the effect of regulatory reforms or a consequence of global political and social instability, which seems to be more likely. The new regulations and the enactment of MIFID II have enhanced the transparency of derivative instruments quoting, by necessitating the disclosure of all available information concerning the risk inherent in such transactions prior to their execution. In view of the fact that implementation of derivative instruments in infrastructure finance is aimed to mitigate market risks, following the entry into force of the new regulations, derivative instruments have to be linked closely with the financing so that they are actually hedging instruments and do not generate any additional risks. Thus, both volumes and maturities are strictly specified by the financing parameters, while quoting transparency and the necessity to disclose information concerning the mark-up standardize spreads used in the quoting of such instruments.

Q13. Effects on EMDEs vs AEs: Is regulation having a differential effect on the provision of IF to EMDEs vs AEs – if so, how? Are there other differences in terms of regulatory impact that should be considered by the evaluation?

Banks are institutions of public trust. They also fulfil the function of financial intermediaries by accepting deposits made by non-professional customers and subsequently exposing such deposits to risk. That is why they are subject to strict requirements aimed to mitigate the operational risk inherent in their business. Prudential regulations which establish arbitrary limits for the safe operations of banks are typically based on the principle of proportionality and usually define prudential standards applicable to own funds. The larger a bank, the higher its own funds. Thus, the scale of its operations may also be greater. Increasing exposure shall not exceed the concentration limits. On the other hand, the value of infrastructure projects hardly depends on the size of the economy or the degree of its development (if at all). What is more, if an economy is regarded as developing, its shortages and the resulting infrastructure needs (infrastructure gap) are sometimes more acute than in a developed one. This creates a demand for disproportionately large loans, which generate a risk that is too high for the bank, thus being beyond its regulatory capabilities. What interferes is both the capital adequacy and the concentration limit. Thus, a clash between the relative limits on the supply side with demand, which is expressed in absolute terms, makes the situation in EMDEs less fortunate than in the case of AEs. Therefore, the regulatory impact on the provision of IF is more considerable on the emerging markets.

Additionally, EMDE's capital markets are less mature than those in advanced economies. This does not mean the size of the market only but also the degree of its sophistication. Thus, neither investors nor those making investments are ready to use innovative project finance solutions, such as project bonds. Access to long-term funding is not easy, either, as the market of pension and life insurance funds is not well developed, savings are lower and their volatility is higher. This is confirmed by figures published by Project Finance International, which reveal that in contrast to EMDEs, after the 2008-2009 financial crisis an upward trend was soon observed on that market in advanced economies. Advanced economies typically have better developed and more flexible financial markets, as a result of which their financing models may be brought into line with new regulatory solutions more quickly, without reducing the availability of funding on the market.

In less developed countries, loans and borrowings continue to be the key source of funding for infrastructure investment, especially where access to EU funds under specific aid schemes is relatively easy. However, where the budget allocated to a growing level of current expenditure is tight, it seems vital to rely on capital market instruments. The key financial instrument available on the capital market, which takes account of the specific nature of finance management at the local government level, is municipal bonds, which may be offered on both the public and private markets. Research conducted between 2010 and 2014 in countries which are considered to be "less developed", including low income countries and medium income countries, revealed that public funds along with private equity (a share of 20%) provided in the PPP formula constituted the principal source of financing for infrastructure investment. Loans and borrowings accounted for the major part of public funds. Usually, advanced economies ensure greater stability of financial, legal and political systems, which encourages long-term infrastructure investment.

In contrast, EMDEs are characterized by higher volatility, which affects the risk profiles of projects. Instability of the regulatory environment forces the adoption of a more prudential approach if that determines the capacity to repay debt. Research shows that at times when the economy is thriving the approach to the risk of emerging markets is standard (proportionate to the rating). However, a slowdown means that the costs of risk go up disproportionately and create a barrier which blocks access to financial markets. What also greatly matters is the level of and differences between interest rates in EMDEs and AEs, in addition to the financial condition of the country and stability of the legal system. As far as emerging markets and developing economies are concerned, taking into account the applicability of national (local) documentation requirements, foreign investors typically consider that risk to be elevated, which translates into higher expected rates of return and increased costs of non-structural investments. The new regulations have reduced the activity of advanced economy banks abroad, thus limiting the influx of new financial capital. In Poland, the impact of Basel III has been limited by strong competitiveness and liquidity of the local banking sector as well as availability of EU aid schemes.

Q14. Effect on substitution of bank financing by other financing: Has there been a partial substitution of bank financing by market-based financing and, if so, to what extent have the reforms contributed to this trend? Is there other information on substitution that should be considered by the evaluation?

It will only be possible to evaluate the effect of Basel III on bank financing after the new regulations have fully been enacted. On the EU market it is generally believed that the new regulatory solutions have been directed against banks. Indeed, the burden imposed on banks over the past decade has been tremendous. It is estimated that capital requirements, including MREL, P2R and P2G, will reach the level of 30%. This will no doubt affect the cost of loans.

In Europe, the role of market-based financing is still considerably smaller than in the US. The Capital Markets Union is supposed to change that. However, EU regulators do not act as quickly as they are expected to. It appears that the most significant progress has been achieved in the development of secured bonds, mainly mortgage covered bonds. It is too early to decide whether or not the scale of bank and market-based financing, and in particular their relationship, will change in the future. It is possible to identify some factors which could influence that relationship considerably, though. As far as banks are concerned, it will be crucial to raise the level of own funds, both Tier 1 and Tier 2 capital. In EMDEs, the process may be slower, as retained earnings may not suffice, while the odds to secure funds on the market in such economies are typically lower. This challenge will be especially serious for banks whose shares are held by local investors. In particular, it may manifest itself in banks with the State as the major shareholder. For banking groups, especially larger ones, the necessity to provide capital injections to subsidiary banks located in developing economies will not be that challenging. In general, subsidiary banks represent an insignificant part of such groups in the said economies, as a result of which expenditures incurred with the objective to increase their equity would be proportionately smaller and the funds would not have to be secured on the local market. Even if banks receive an appropriate capital injection, NSFR will necessitate heavier reliance on long-term financing. Subsidiary banks are most likely to obtain it from their parent companies. Other banks may face a serious challenge the solution to which may even require reorganization of the market. The new regulations will undoubtedly be problematic for banks. But on the other hand, considering the risks inherent in banking operations and their recent manifestation, such solutions seem to be indispensable. No such issues arise in the case of market-based financing. Access to it is easier and a regulated market does not present similar obstacles. Thus, market-based financing should be simpler. Thus far, the costs of regulations and restrictions imposed on banks have translated into an inconsiderable increase in the assets of EU banks as compared to the pre-crisis exposure. On the other hand, the growth of funds which are regulated to a lesser extent, generally known as the shadow banking, has been more exponential. According to the announced EU policy, the capital and funding markets are supposed to shift to the market of bonds and shares. Thus far, progress has been little, though.

A small share of bonds (except the US) in the infrastructure finance structure is a result of a lack of both tradition and experience in long-term investment, mainly at the local level. One may suppose that local governments, as issuers, are incapable of offering higher discount rates,

while the organization of an issue itself requires the payment of considerable costs. The market of municipal bonds may be expected to continue to grow, especially after the end of the current EU financial perspective, as the time of relatively easy access to EU funds will end. Local governments will search for new sources of funding more pro-actively, in order to eliminate financial gaps, as it is estimated that the investment needs relating to public infrastructure will not be reduced. In contrast, they will even be stronger. Additionally, one should not forget that the experience and capabilities in as well as knowledge of debt capital market instruments will expand, which is likely to contribute to stereotypes being challenged and less conservative approaches taken by local governments.

Such phenomena should also form solid grounds for the development of public-private partnerships. As far as PPP projects are concerned, financial closing at the design phase is difficult to achieve, which is also an issue in all other public utility investments. In highly advanced economies, private equity infrastructure funds begin to play a vital role in the financing of the equity portion (private equity). Infrastructure funds make fixed-term investments, typically lasting for five to eight years. The largest infrastructure funds focus on advanced economies (in Europe and North America) and are supported by major financial institutions. Pension funds are natural institutional investors due to the long-term nature of their liabilities. Pension funds, both public and private, are the most active investors in the infrastructure sector. Another important group includes insurance undertakings as well as life insurance companies and professional investment entities (investment firms and asset managers). The share of government agencies and foundations may not be ignored, either.

In countries with more mature capital markets (US, Western Europe), where the share of institutional investors in projects with a long-term investment horizon is larger – the said group of investors (pension funds, infrastructure funds) is more and more engaged in the provision of debt financing for infrastructure projects. Historically, their expected rates of return exceeded the cost of financing in the banking sector. As compared to traditional bank financing, project bonds are sold to a wider range of investors and are considerably more liquid. They share some characteristics with the traditional bank financing structures, such as amortization and a bond issue schedule designed on the basis of the project timelines. From the point of view of the European and Polish markets, support instruments offered by EIB or EBRD may also have an important role to play. The engagement of supranational financial institutions has a positive impact on the bankability of large infrastructure projects in Poland. On the other hand, one of their tasks is to develop the capital market. That is why they focus on the design of a wide spectrum of credit enhancement instruments, which are expected to drive the growth of the European market of project bonds. In this regard, Western Europe is following the example of the United States, where financing obtained on capital markets, most of all in the form of bonds, is definitely more developed. In fact, such a market structure is more effective in responding to the challenges faced today by banks and created by additional regulations.

The Polish market is far behind the US and Western Europe in this regard. Considering the current share of capital market instruments, one should not expect any spectacular changes in the Polish infrastructure finance market in the upcoming years. As long as there is easy or

relatively easy access to EU funds, the financing methods will not change dramatically. This is also a direct consequence of the principles of allocation of funds within the EU framework, as disbursement depends on a contribution being made by local government entities. Typically, in order to increase their share, local governments use the so called bridge loans, which are repaid once EU funds have been disbursed. Banks are particularly interested in the provision of bridge loans as, firstly, local government entities are treated as the most reliable borrowers, secondly, the repayment procedure is defined precisely and finally, it is equally important to banks to retain local government entities as their customers in the face of the constantly growing inter-bank competition. However, efforts begin to be made to sell municipal bonds that offer increased financing flexibility as compared to loans. Municipal bonds may be issued based on simplified procedures and without the necessity to satisfy the requirements of the public procurement law (which apply e.g. to selection of the servicing bank). What is more, the purpose of a bond issue may be more general than in the case of loans, which allows local governments greater freedom to use the funds obtained in this way. Finally, banks are usually unwilling to grant loans whose tenor exceeds ten years. The benefits of a municipal bond issue include also those derived from the redemption terms. As far as loans are concerned, besides the spectacular and rare cases where a grace period has been offered (for the repayment of principal and interest, or principal or interest only), the borrower is required to repay the loan, including interest, after the expiry of the first month of its provision. In contrast, in the case of bonds there is a period of time between the issue date and the redemption date, which in practice may mean that the first portions of financing are repaid only after a few years. Furthermore, bonds listed on the stock market undoubtedly contribute to building an attractive market image of the issuer, enhancing its credibility and facilitating the securing of capital in the future.

In Poland, banks continue to be the major source of infrastructure finance. No significant changes have taken place recently in this regard. This situation is determined by several factors, namely a poorly developed corporate bonds market, an environment of historically low interest rates and the comparatively low level of investment activity. At present, bank financing is a highly competitive form of funding due to relatively low financing costs. If the cost of credit continues to grow (as a result of imposition of more demanding capital requirements and an increase in interest rates, which may be seen within the next two to three years), business entities may finance projects using their own funds (as at the end of July 2018, corporate deposits exceeded PLN 260 billion). The activities of infrastructure funds are considerably less important. Nevertheless, growing interest has recently been seen in the Polish infrastructure finance market on the part of foreign infrastructure funds and insurance companies. In the future this could lead to an increased share of such financing, also as part of structures that accommodate financing provided by global infrastructure funds in combination with financing from similar funds managed by the Polish Development Fund (Polski Fundusz Rozwoju, PFR).

One of the factors that determine limited growth of the corporate bonds market in Poland has also been the tax on assets. In light of the level of risk and the prudential principles followed by banks, growing interest has been observed in the bonds market in selected industries (real estate, debt collection). The key reason for other sector entities searching for market instruments solutions that are alternative to the still overly liquid banking sector is the

flexibility of the financing terms (ratios/collateral) coupled with a relatively lower level of post-transaction interactions with investors (as compared to banks). Typically, bonds have fewer covenants but they are a more expensive form of financing. The recent developments in the capital market of debt instruments (bankruptcy of a large issuer) may slow it down temporarily. Also, anticipated changes relating to pension reforms, with a number of unknowns, have somehow affected the willingness of pension funds to invest in bonds. However, a revival may be seen once the new pension funds which are currently being designed by the Polish government are introduced. Attempts to arrange subordinate financing are barely discernible and they are limited to the best projects.

Bank financing continues to be the least expensive and the most available source of funding in Poland. As far as large infrastructure projects are concerned, it is also frequently possible to use funds provided by international development banks that offer particularly favourable financing terms. Additionally, EU funds still play an important role in the provision of infrastructure finance. The debt market in Poland is shallow and the number of institutional investors limited. As for private investors, there are still insufficient regulations ensuring a proper risk framework for instruments offered to this investor group.

Q15. Effects of G20 reforms on hedging of risks in IF transactions: Have the G20 reforms covered in this report (particularly Basel III and OTC derivatives) affected the availability or cost of hedging the risks (credit, interest rate, currency etc.) inherent in IF transactions – if so, how? In what ways do these effects differ for AEs vs EMDEs and why?

Ultimately, all these reforms require a capital increase, thus creating an additional cost for banks. What is more, such a heavy demand for capital will be a challenge to EMDEs. The smaller and the less developed a market, the more limited access to capital, which may ultimately reduce the availability of credit for major projects, including infrastructure ones.

In advanced economies, banks rely on credit risk models more often than those on emerging markets. Basel III has imposed some limitations on the use of the said models. In effect, the capital requirement and the demand for capital will increase substantially, for instance in the case of mortgage loans. For banks in the European Union this will constitute a major challenge if this time the EU legislator decides to introduce regulations that are consistent with the requirements of Basel III, which will spur the demand for capital. As far as the US market is concerned, a vast majority of mortgage loans are part of portfolios of institutions which are not banks and thus, not obliged to comply with prudential regulations. Therefore, a change in the system of risk weights for mortgage loans will have a limited impact on the capital position of US banks. In the European Union, nearly the whole portfolio of mortgage loans is recognized on the balance sheets of banks. Hence, the amendments to regulations will have tremendous influence on EU banks, in particular those in the case of which the share of mortgage loans in the total exposure is substantial.

Post-crisis regulatory reforms have been designed with the objective to minimize the use of derivatives for speculative purposes and misselling, in addition to reducing financial

institutions' excessive appetite for credit risk. Thus, the said regulations are expected to re-introduce their primary role, which is to eliminate the adverse impact of the changing market factors on the project. The regulations have had a positive effect on standardization of costs relating to the entry into hedging transactions with respect to the currency and interest rate risks. MIFID II is applicable to EU member states and it is aimed to standardize both the ways in which transactions are made and access to derivative instruments on the EU market without affecting the sales policies on other markets. The indirect effect of the above-mentioned regulations, which is enhanced transparency and improved stability of the global banking market, is positive. The impact of derivatives market reforms on infrastructure finance in Poland is limited. In properly structured project finance transactions derivatives have been used only for purposes of hedging clearly identified project risks (currency and interest rate risks). From the point of view of customers, the key change has affected the process of transaction making. What is more, the transparency of information has increased as well (primarily due to the fact that the customer is now informed on the mark-up and any related costs).

The regulatory reforms affect both the availability and the cost of market risk hedges. Following the crisis sparked off by the bankruptcy of Lehman Brothers in 2008, regulators have introduced numerous requirements and changes with a view to mitigating market risks (including capital requirements or amended accounting standards). Such measures were aimed to reduce the mutual exposure of banks to each other, including to OTC derivatives, which apply to interest rate, currency, credit risk and other hedges (for instance, those related to commodities). Despite these regulatory initiatives, the threat that risks may be transferred from global markets to local counterparties is still serious, while the new regulations eliminate it only in part due to advancing globalization and the extended network of relationships among counterparties.

Q16. Effects of other reforms: G20 reforms that are at an earlier implementation stage as well as national and regional regulations that apply to insurers and pension funds have only been examined qualitatively. For these regulations, is there further relevant information about their impact on IF that should be considered by this evaluation?

Undoubtedly, pension funds may activate the financial market and infrastructure projects. At present, insurers in Poland, similarly to banks, are subject to the tax on financial institutions. The current economic policy promotes consumption as opposed to savings, which will not accelerate growth in the long term. Public burden imposed on banks and insurance undertakings is a drain on capital, and further regulations (such as MREL) will pose an enormous challenge. Pension societies are less interested in the provision of infrastructure finance as their funds have been limited. The investment activity of insurance companies will focus even more on treasury securities. Considering the behaviour of pension funds in Poland, one may notice that they are not so willing to engage in long-term projects, while the additional tax has translated into an increase in the expected rate of return.

The regulations which have restricted the freedom of pension funds and insurers to invest will further limit the possibility to finance long-term infrastructure projects (as providers of

subordinate financing). Amendments to national laws, including the Public Procurement Act or the Public-Private Partnership Act, as well as changes affecting infrastructure project implementation and reporting in Poland, are of crucial importance. Any such modifications affect the assessment of the risks inherent in investment projects, which is crucial for taking decisions regarding the provision of financing. The recently announced changes affecting the relationships between general contractors and subcontractors constitute an example of a reform that is at an earlier implementation stage and may have an impact on infrastructure finance. However, Poland does not have regulations in place that would allow insurers and pension funds to engage in the provision of infrastructure finance in the project finance formula (infrastructure bonds, trusts), which is the case in the US and Great Britain. The requirements of the Public Finance Act which apply to the calculation of individual debt ratios for local government entities as well as the provisions of the Maastricht Treaty specifying the required ratios of government debt and budget deficit to GDP are also of crucial importance. Polish regulations governing pension funds and the investment activity of insurance companies do not permit the use of their resources for the provision of long-term infrastructure finance together with other partners. Polish pension funds do not invest directly in equity instruments issued by entities engaged in infrastructure projects in the project finance formula. Instead, they invest in public companies, primarily from the power sector, that carry out such projects. This is mainly due to the applicable regulations that govern the operations of open-ended pension funds, in particular the requirements for investments on the public market, as well as the fact that it is practically forbidden to invest in closed-ended investment funds, which could in turn invest in the above-mentioned entities. From the point of view of investment funds, a mismatch between assets and liabilities coupled with low liquidity (in the case of open-ended investment funds) and a reduced investors' demand for long-term closed-ended investment funds are the key barriers. In effect, insurers and open-ended pension funds invest, on commercial terms, a part of their portfolios only in debt instruments issued by entities engaged in infrastructure projects.

The draft Act on Employee Equity Plans is a regulatory reform with a potential to change the situation. It considerably broadens the scope of investments available to target-date funds offered by investment fund managers, pension funds and insurance undertakings. Target-date funds may close the asset-liability gap as the liabilities of such funds are long-term in their nature. According to the draft act, it will be possible to invest up to 10% of the funds' assets (the maximum of 1% per project) in certificates issued by non-public closed-ended investment funds. Depending on the capabilities of the institution, such instruments may also be used for purposes of provision of infrastructure finance, if the risk/reward ratio is attractive. It will be possible to evaluate the real impact of Employee Equity Plans on infrastructure finance within a decade of their introduction due to a low level of assets at the preliminary stage, coupled with the requirement to diversify risks.