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Transformation of the international and European project finance market as a result of the crisis*

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Project financing is not a new form of funding in Hungary or in other countries. Many consider it as a product of the pre-crisis abundance of money, when relatively ample liquidity encouraged banks to enter into transactions where safe repayment could not always be seen clearly. In many cases, this excessive risk-taking resulted in defaults on project financing loans, which was also exacerbated by lack of prudence in the evaluation of transactions. The objective of this article is to present the history of project financing between 2005 and 2014 on the basis of the amounts of loan mobilised by mandated lead arrangers (MLAs) and the project bond amounts subscribed by the organisations involved in the bond issue, with special regard to Europe. The study also aims to highlight those milestones and factors that sometimes reduced and sometimes increased the project value implemented through project financing. The analysis is based on the official database of IJGlobal, using fundamental statistical methods, ratios and rates. The analysis pays special attention to the financial institutions that played the main roles before, in and after the crisis.

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1. Literature review

1.1. Project financing as a loan product

The concept of project financing has already been defined by various authors. *Newitt and Fabozzi (1997)* emphasised in connection with project financing that the novelty of this form of funding compared to traditional corporate lending is that the security for the amount of the loan is not the assets of the financed entity, but rather the future cash flow of the financed project, and this cash flow is received by an entity separately established for this purpose. *Finnerty (2007)* mentions project financing as funding based on limited resources or funding without resources,

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where the return of the invested amount can be determined on the basis of the future cash flow of the project. *Yescombe (2008)* follows Newitt and Fabozzi, but also emphasises the long time span of projects. The wording by *Nádasdy, Horváth and Koltai (2011)* (similar to Finnerty's definition) defines the concept of project financing according to the basis of the return on the projects (i.e. upon project owners and backers making the decision on the investment, the cash flow and asset value of the future project are taken into account).

On the basis of the above definitions and authors, the essential features of project financing as a special credit facility can be summarised as follows. *(i)* It is received by an entity which is created especially for the given project (SPV[1]) and which has a special economic or financial relationship with the sponsor/owner. *(ii)* It is financing with high leverage (sometimes it may reach as much as 80–90%[2]). *(iii)* Because of the independent project company, the amount of loan does not burden the balance sheet of the sponsor/owner company[3] directly, and it does not undermine its creditworthiness.[4] *(iv)* In the case of the non-recourse type loan, only the cash flow of the project and not the assets of the sponsor/owner may serve as cover for the loan.[5] *(v)* The transaction is basically built by two actors, the sponsor and the financial institutions, which are mainly the creditor banks and the bond issuers. *(vi)* The provider of the loan capital does not become an owner in the project company. *(vii)* Due to the above features it is a highly risky credit facility, and this risk can only be reduced by a base of competent and qualified advisers.

The key target areas of project financing are summarised by *Fight (2006)*: *(i)* energy sector, *(ii)* gas and oil industry, *(iii)* mining, *(iv)* motorway construction, *(iv)* telecommunications, *(v)* other projects (paper manufacturing, chemical industry, construction of hospitals, airports and prisons).

The above list needs to include real estate financing as well, which also represents a considerable share within the project finance market.

From a corporate perspective, project finance is a form of funding with a number of advantages. One argument for it is that it offers off-balance-sheet financing

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[1] Special Purpose Vehicle.

[2] However, the crisis significantly overwrote this ratio, as the expectation concerning own capital increased, mainly in the case of projects in the oil and gas industry, those relying on renewable energy sources, and water conservancy and mining projects.

[3] Sponsors are the ones who provide the resources necessary for the implementation of the project, plan and organise its implementation, formulate the main objectives of the project and help to achieve them.

[4] The loan amount is stated only in the consolidated accounts.

[5] Based on the stipulation of the right of recourse, project financing can be classified as three types: *(i)* non-recourse financing, where the sponsor/owner does not take responsibility for the obligations of the project company, *(ii)* full-recourse financing, where full responsibility is taken and *(iii)* limited-recourse financing, where the sponsor/owner has limited responsibility.

with exceptionally high leverage, and therefore a borrowed large amount does not burden the project owner's balance sheet directly (as it appears only in the consolidated balance sheet) or lower the project owner's creditworthiness *(Yescombe 2008)*, as the loan is received by a separate project company set up for the purpose of the project. According to *Esty (2007)*, a legally independent company established for implementing the project is funded with its own capital raised by one or more sponsors and from borrowing for the purpose of the project. Beyond that, the owner of the project company does not even have to undertake a guarantee for the loan; according to the agreement with the bank *(Nádasdy et al. 2011)*, the transaction can be non-recourse or limited-recourse financing (naturally, right of full recourse may also be stipulated). Accordingly, the loan is mainly secured by the contracts concluded (for example, without attempting to be exhaustive, general contractor, supplier, sales and operating contracts),[6] based on which the providers of funding can form an opinion of the relevance and viability of the project. Another advantage is that project finance in most cases results in better capital allocation than traditional corporate finance *(John-John 1991)*, as, in view of compliance with the strict conditions, the deeper monitoring automatically eliminates projects whose return is uncertain or which are not well-founded.

The repayment of loans is ensured by the cash flow originating from the operation of the project, which removes further burdens from the shoulders of the project owner, compared to traditional corporate finance *(Gáldi 2002)*. Due to the high credit demand of the project and the significant information asymmetry of the initial phase, banks that participate in project financing usually undertake lending in a syndicate and not alone, in view of the prohibition concerning large exposures and customer risk. Mandated lead arrangers[7] become internal actors of the project, as they are present with the sponsors from the initial, planning phase of the project, and they involve further partners (banks) in the financing *(Gatti et al. 2008)*. Therefore, mandated lead arrangers have a better understanding of the background of the project, and they become acquainted with the contracts on the basis of which they decide on financing. If the loans cannot cover the planned funding requirement, they can be complemented with project bonds as well; consequently, other forms of funding (e.g. financial leasing, supplier financing, mezzanine financing) are tertiary during the transaction. Creditors and providers of funding have to take into account the risk due to the long-term nature of the project, as well as interest rate and exchange rate risks, but market and operational risks also have a significant impact *(Szalai 2011).* Major project financing transactions often cross national boundaries as well. Due to the volume, complexity and capital requirement

[6] In addition to the contracts, other elements of guarantee also exist: without attempting to be exhaustive, these include liens, option rights, security interests, commitments and various assignments.

[7] The leading organiser financial institutions are called MLAs (mandated lead arrangers). They are also known as lead banks, lead arrangers or lead managers.

of projects, as well as to ensure a well-founded background for banks' decisions and to reduce the risk taken by them, it is necessary to also involve external experts and advisers, who may (inter alia) be legal, financial, sectoral or insurance experts *(Kónya 2009)*. These advisers (if the project also has international aspects) can be employees of major (also international) consulting firms with many years of experience in the field of similar projects.[8]

As with any other financing transaction, project financing can be successful in countries where the economy is transparent, contracts are respected, and one does not need to fear market failures that may break the budget of the project or otherwise sabotage it *(Ahmed 1999)*.

1.2. Project finance and the principal-agent problem

The classical principal-agent problem, which is precisely defined by *Williamson (1998)*, is often encountered in traditional corporate finance. According to this theory, the principal (owner) delegates certain decisions to the agent (manager), who is better supplied with information and has a better overview of certain issues. This makes operational decisions easier, but it may also give rise to corrupt practices. Funding decisions are also included here. Having medium-term interest, the agent may not always necessarily choose the funding alternative that is the most optimal for the business.

The principal-agent problem is present at many large companies, where various actors have different and often contrasting interests.[9] The success of the company depends on whether these actors are able to cooperate and come to an agreement for the common good (i.e. profit). At first glance, the problem seems to be bridgeable with an appropriate contract, in which the principal obliges the agent to represent the interest of the company according to his best knowledge in any situation. However, it is impossible to completely define these situations, and as it is difficult to comply with something that cannot even be defined, the written contract in this form becomes pointless. Even if it could be defined, in the vast majority of cases, monitoring the observance of the contracts would be a very costly procedure, which in turn would bring into question the observance of the cost–benefit principle. The involvement of the agent in the circle of owners seems to be a good solution. In this way, he does not handle other people's assets, but also has personal interest to achieve the most efficient operation possible.

[8] There are legal and financial advisers in each project finance transaction; no transaction can be launched without them, or only with a high risk.

[9] The owner of a company thinks over the long term and seeks to facilitate permanent growth, while managers, who handle the capital of the owner, tend to think over the medium term, keeping annual bonuses in mind.

The project finance model reduces this problem, which can be considered classical *(Esty 2003)*, and it does not have to be taken into account upon investment in assets *(Myers 1977)* and in the case of optimal choice or substitution of assets *(Jensen–Meckling 1976).* The complicated contractual structure of project financing distributes risks and forces the actors to engage in continuous monitoring. This form of funding keeps the management focused in a very narrow channel, as the project company may only deal with the project. As a result, information cannot be 'hidden', as it is continuously requested and demanded by the creditors as well. *Brealey et al. (1996)* prove this beneficial feature of project finance through the example of infrastructure projects. Consequently, project finance represents a much more transparent and clearer decision-making structure than traditional corporate finance *(Byoun et al. 2013).* Based on the above, the main advantages and disadvantages of project finance can be summarised as follows:

Table 1.
Advantages and disadvantages of project financing

Project financing is advantageous:	
Management of the principal-agent problem:	– Specialised and decentralised management. – Allows separate motivation of project managers. – Excludes squandering of free cash flow. – Increases the possibility of external checking of the project. – Encourages the dissemination of information.
Impacts on ownership structure:	– A project company can be set up even without a complete assessment of creditworthiness of the sponsors. – Limits project sponsors' commitment. – Reduces creditors' exposure to project risks. – Allows project-specific debt ratios.
Other effects:	– Costs spent on individual purposes become transparent. – Allows the provision of services for several companies, not only for the sponsor. – Partly alters the role of the sponsor; he becomes not only a capital owner, but also a supplier. – Avoids double taxation.
Project financing is disadvantageous:	
– If there are complicated interactions and relations between the project and the other companies. – If a delay in the project entails high costs. – The optimum capital gearing is low. – The costs of contracts are high.	

Source: own compilation based on Brealey et al. (1966)

2. Project finance and the crisis

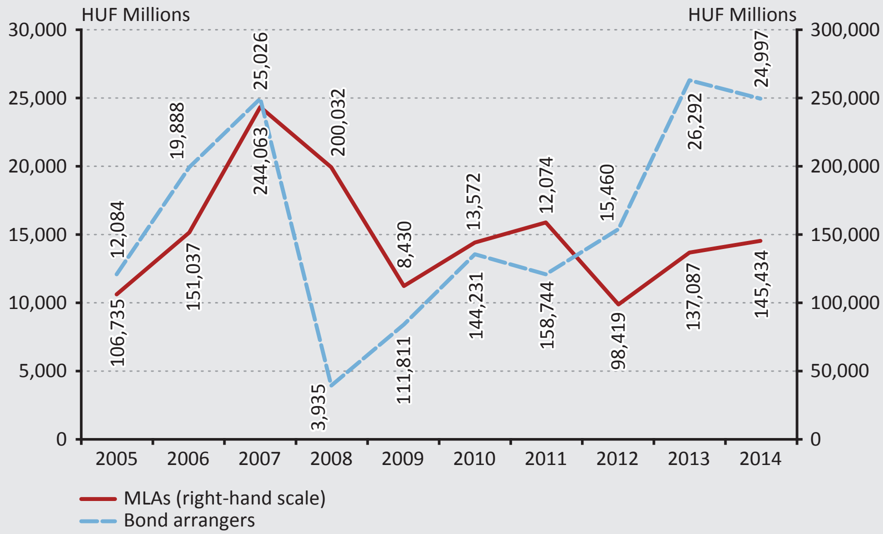
The largest financial bubble of the 21st century until now (and also since the 1929–1933 crisis), followed by the largest crisis, left its mark on all economies and thus on all financial instruments *(Lentner et al. 2010).* Project finance was greatly affected by the 2008 economic crisis, which also changed the attitude of banks *(Borzán et al. 2011)*. In view of the drastic fall in available funds and banks' unprecedented losses, providers of funding and those looking for funding completely retailored their practices. Investors and borrowers became sensitive to risks, prompting more cautious behaviour on the part of actors *(Gatti 2008).* This change was perceived at the domestic and international levels as well. In view of tightening resources and economic uncertainty, the providers of funding also required an increasing number of guarantee elements, including a clause concerning some form of recourse.

Following a period of ample liquidity *(Király 2008)*, due to the 'skeletons' hidden in banks' closets, defaulting loans and irresolvable bond packages, banks experienced liquidity shortages for years, but there were also institutions that struggled to survive. The large bond issuers playing a role in project finance (e.g. Citigroup, Merrill Lynch, HSBC, the Royal Bank of Scotland, Morgan Stanley, Credit Suisse, JP Morgan, Bank of America, Goldman Sachs and Lehman Brothers)[10] all struggled with major financial difficulties, and some of them could not even survive the crisis.

Various organisations have undertaken to keep records of project financing transactions. Among others, the Thomson Reuters Project Finance International, the International Financing Review and the IJGlobal database operated by Euromoney contain an abundance of data and information on the transactions in various breakdowns. This article presents the changes in project finance before and after the crisis using the IJGlobal database. The IJGlobal database was chosen because it examines all international projects, and it contains, inter alia, detailed data on the target area of projects, their leverage and their locations. The study contains only those transactions with their values that were implemented with international participation and that needed a syndicated loan subscribed by mandated lead arrangers (MLAs) and bond issue organised by bond issuers. Based on financially closed transactions, prior to the crisis in 2005 the aforementioned financial institutions accounted for nearly 53% of the whole project bond market. In 10 years, this has fallen to 26%. One must not disregard the fact that these figures are related to completed transactions begun several years earlier, but the declining trend is still clearly visible.

[10] Hereafter these ten financial enterprises which were significantly involved in the outbreak of the crisis are called the 'V10' group.

Figure 1.
Value of financially closed projects of bond issuers and mandated lead arrangers
(USD million)



Source: own compilation based on IJGlobal, 2015

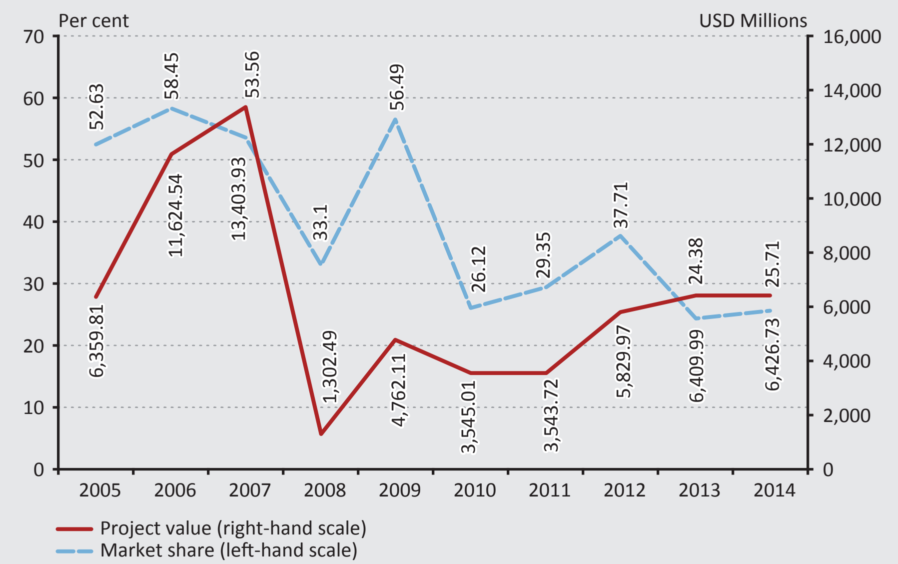
The above figure shows that the bond market of project financing was very hectic in the 10 years under review, but still showed outstanding annual average growth of 29%. The onset of the crisis in 2008 resulted in an unprecedented decline in the market of project bonds: a fall of 84% as an average of the previous year, and a fall of 66% compared to the base year (i.e. 2005). All of this proves that due to high leverage, project finance is especially sensitive to market uncertainties and to crises in particular. Following the first major shock of the crisis, the market started to return to the pre-crisis level. This continued until 2011, when a slight decline was observed again, due to the euro crisis caused by the crisis in Greece. The decline in 2011 was not as significant as the one experienced in 2008, because the volume of bond financing did not go below the 2005 level. Actually, the decline was only 11%, compared to the previous year's figures.

However, the MLA market shows different pictures before and after the crisis. Following the base year of 2005, the MLA market started to grow dramatically. Compared to the value of the base year, by 2007 the market had grown by 129%, and its value did not decline even with the outbreak of the crisis in 2008 (compared to the base year, it was still 87% higher), as opposed to the major fall of the bond market. Comparing the 2008 data with the previous year's figure, the fall is still not as significant (18%) as in the case of the bond market. The MLA market was less affected by the sub-prime crisis than by the aforementioned Greek crisis, which had a huge impact in the market of mandated lead arrangers one year later (i.e.

2012). In 2012, the market fell sharply compared to the base year and was 8% lower compared to the 2005 figure. This value shows a considerable decline (38%) with regard to the previous year's data as well. The underlying reason is several banks in the MLA market involved in financing Greek debt. The fear of default of the Greek state and the ensuing uncertainty resulted in a considerable increase in these creditors' risk, and at the same time they urged financial market participants to accumulate reserves.

Considering all of this, it is also expedient to examine the role in the project finance of the players most frequently mentioned and best known in connection with the crisis.

Figure 2.
Market share of the 'V10' group of financial institutions (%) and the project value (USD million) closed by them financially in the market of project bonds

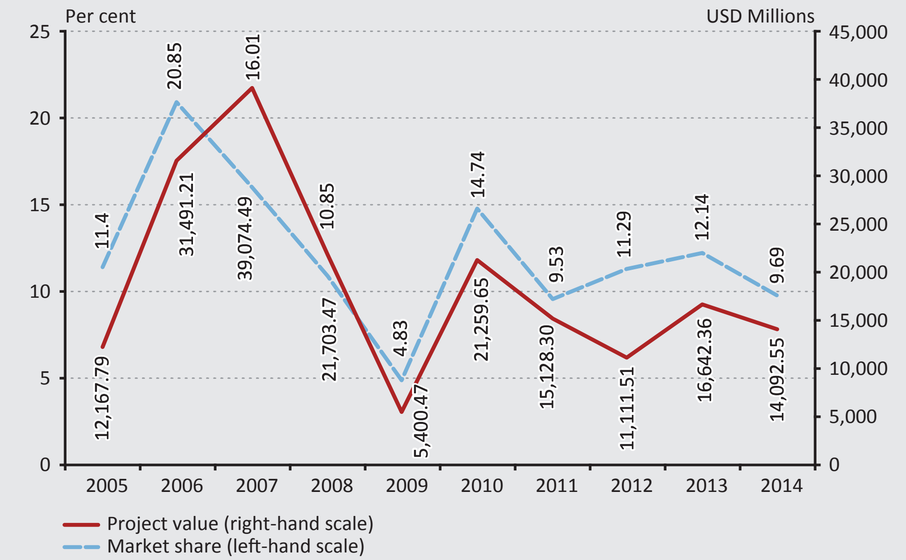


Source: own compilation based on IJGlobal, 2015

The institutions listed above account for 40% of the project bond market as an average of the ten years under review. The above figure shows that this group of institutions had a more than 50% share in the bond market in the initial phase of project finance, with an immediate decline as the first signs of the crisis appeared. These institutions' market share shrank to 33% in 2008, although it exceeded 50% in the following year. As shown by the project value as well, the reason for this surge was not an increase in the funds of the bond market that could be mobilised or the institutions under review, but the narrowing of the market. Following that, the market share of the 'V10' fluctuated between 25% and 38%, standing at 25.71% in 2014, which is the last year under review.

The value of the project bonds of the 10 institutions under review shows even more dramatically the impact of the crisis in terms of their resources. On a 10-year average, project bonds were financed in the amount of USD 6,321 million. In 2005, the institutions arranged project bonds issues with a value of USD 6,360 million, and this amount increased significantly until 2008. By 2007, compared to the 2005 base, the value was already 111% higher than the figure for the base year. As a result of the fall due to the 2008 crisis, the institutions under review accounted for one fifth of the figure for the base year. Following the outbreak of the crisis, the value of the project bonds of the institutions increased slowly, and the 2005 level was only reached again by 2013; even in 2014, the value was hardly 2% higher than the figure for the base year. It is worth examining the values as a proportion of the previous year as well. The 2008 fall, which was enormous on the basis of the data of the base year as well, is even more drastic as a proportion of the previous year, amounting to a mere 9.72% of the 2007 project bond value. The 2011 decline is not that visible in the 'V10' values, compared to the project bond issue as a whole, since it went below the 2010 value only slightly (99.96%). In terms of the bonds issued by the 'V10' group of institutions, another significant surge is observed in 2012, when the increase was 64.52% compared to the figure for 2011 (this value is

Figure 3.
Market share of the 'V10' group of financial institutions (%) and the project value (USD million) closed by them financially in the MLA market



Source: own compilation based on IJGlobal, 2015

91.67% of the base year figure, as opposed to the previous year's 55.72%). In the following two years, this segment of the project bond market was characterised by stagnation.

The 10 institutions under review show hectic fluctuations in the MLA market of project finance as well. As opposed to the 40% share in the project bond market, they had a mere 12% share in the MLA market as an average of the 10 years under review. In terms of their market share, compared to the base year (11.40%) they significantly increased their share by 2006, when they accounted for one fifth of the market. It is interesting that their market share started to decline well before the crisis, as they stood at only 16% by 2007. The underlying reason was not the approaching recession, but an upswing in the market and the entry of new players, which resulted in a significant decline in the share of the 'V10' group. They hit a bottom in 2009, when their share shrank to 4.83%. This was clearly attributable to the effect of the sub-prime crisis. The next year, this low was followed by a swift recovery, and the share of the group increased by nearly 10 percentage points. This surge in market share is attributable to the weakening of the MLA market participants as well as the recapitalisation through state or private channels of many of the institutions under review. The market share declined again in 2011. Then, following slow growth, by 2014 it remained close to the 2011 level, not even reaching the base year ratio (it was 1.71 percentage points lower).

Examining the amounts contracted by the 'V10', compared to the initial value (USD 12,168 million) they succeeded in mobilising nearly two and a half times more the following year, making an increase of 159%. By 2007, the value related to this group of institutions continued to increase in the MLA market, by 24% and 221%, compared to the previous year and the base year, respectively. The outbreak of the crisis resulted in a major fall in 2008, but the value was still 78% higher than in 2005. The fall in 2008 is also clearly demonstrated by the decline of 44.46% measured in relation to the previous year. However, the drop in the amounts tied up in the MLA market did not stop in 2008 and reached its low in 2009 (in the case of bonds it had taken place a year earlier), as seen in market share as well. This value was 44.38% of the figure for 2005, and it amounted to a mere 24.88% of the data for the previous year. It was the lowest value concerning the ten years and ten institutions under review. In 2010, the MLA market started to recover, with the value reaching the level of two years prior, taking 2005 as the base (meaning a 294% increase compared to the previous year!), followed by a slow decline again. The next low (which was much less serious than the one in 2009) was reached in 2012, when the amount fell below the 2005 level again (being 8.68% less than that). The decline is spectacular compared to the previous year as well; the amount tied up in the MLA market was 26.55% lower. The amounts subscribed by these institutions increased slowly in 2013 and declined again in 2014. As a result, the indicator for 2014 exceeds the 2005 value by only 15.82%.

3. Europe in the global project finance market

The European project bond market accounts for only a small slice of the whole market as an average of the ten years under review, with its share amounting to an annual average of 10.71%. Between 2005 and 2014, the value of the project bond market as a whole corresponded to a turnover of USD 161,758 million, of which the share of Europe was only 14.38% (i.e. USD 23,260 million) in the years under review.

Figure 4.
Value of the total and the European project bond markets between 2005 and 2014
(financially closed project value, USD million)

Source: own compilation based on IJGlobal, 2015

An examination of the changes in the project bond value that can be linked to Europe reveals that it represents a very small slice in the pre-crisis years, as it was below 10% until the end of 2012. Compared to the initial value of USD 335 million, the bond value that can be linked to Europe surged by 360% the next year, also increasing the ratio considerably (from 2.77% to 7.75%). As shown by the figure as well, in 2007 the total bond market was still able to grow, but the European segment had already started to decline, and it was 18.43% lower compared to the figure for the previous year. Therefore, it can be established that signs of the crisis were already visible in the European market in 2007. This value continued to decline in 2008 (to a mere 30.45% of the 2005 figure and only 8.11% of the previous year's value), but the real low for the 'old world' was experienced in 2009. Expressed in figures, it represents a mere 11.04%, compared to the base year, and 36.27%

compared to the previous, otherwise very low, data. Europe's share in that year amounted to 0.44% of the total bond market. Based on the aforementioned data and the figure, the European segment follows the movements of the total project bond market only with significant distortions. Compared to the previous years, the available data show a significant improvement in 2010, but this improvement was very short-lived. In 2011 – due to the Greek debt crisis, which impacted Europe the most – the value fell again, although it did not reach the lows of 2008 and 2009 (the share of Europe within the whole market was 1.13%). The decline in 2011 was greatly attributable to the surge in CDS spreads of European countries as well, which started in the summer of 2011. The approximate 25,000 basis point value of the Greek CDS was certainly not beneficial to the project finance market – neither in the bond market, nor in the credit market. In view of the European sovereign debt crisis caused by the Greek crisis, the risk of the continent as a whole increased, which reduced project finance providers' long-term confidence in the region.[11] Compared to the base year, it was 40.90%. However, 2012 can be considered a milestone for Europe, as the value of the market surged considerably. While the market as a whole grew by a total of 27.94% compared to the base year, Europe surged by 687.76%. This unbelievable growth is even better demonstrated by the growth calculated on the basis of the previous year, amounting to 1,926.28%. This growth reached its peak in 2013, as the total market also reached its highest level then. Compared to the base year, it was 3,126.57% (i.e. quadruple the figure for the previous year). Accordingly, the European segment accounted for 39.84% of the whole market, and thus the other continents were spread out across the remaining 60%. In 2014 the value was halved, but it still amounted to 1,701.49% of the base year (the total market stopped at 206.86% of the base year), accounting for 22.8% of the total market.

Based on the low European figures of the bond market, it can be stated that the attitude of the continental financial culture can be strongly perceived here as well. While the US market accepts bond financing, European players – with the exception of some countries – are averse to it. The eastern part of the continent, which is still learning the rules of the market economy, does not easily accept bond financing as an alternative or supplement to loans. With the exception of some western countries, this mode of funding is not really accepted even as a supplement to project loans.

It is also worth examining the Top 10 list of the European project bond market, which shows the primary rearrangements and exchanges of roles as an average of the years under review. The table scrutinises the beginning and the end of the period under review as well as the periods of the two lows, 2008 and 2011.

[11] The CDS spread of Central East European countries improved significantly after the crisis (*Szőrfi 2015*), but it still proved to be insufficient for an improvement in European indicators.

Table 2.
Top 10 participants in the European project bond market

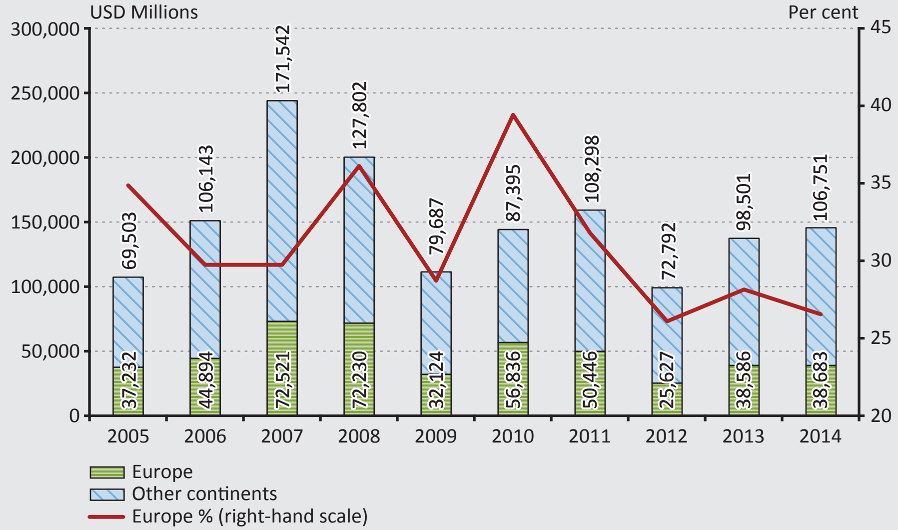
	2005			2008		
		Value (USD million)	Share (%)		Value (USD million)	Share (%)
1	Banco Sabadell	167,50	50.00	Grupo Santander	31,34	30.77
2	Grupo Santander	167,50	50.00	Banca March	14,24	13.98
3				Caixa Geral de Despósitos	13,67	13.42
4				Royal Bank of Scotland	13,67	13.42
5				Espirito Santo Investment	6,30	6.18
6				Caja Madrid	3,46	3.39
7				Milleneum BCP	3,32	3.26
8				BBVA	3,27	3.21
9				Banco BPI	2,81	2.76
10				La Caixa	2,81	2.76
Σ		335,00	100.00		94,89	93.15
	2011			**2014**		
		Value (USD million)	**Share (%)**		**Value (USD million)**	**Share (%)**
1	Dexia Group	55,89	40.84	Credit Agricole Group	654,00	11.48
2	Isbank	27,00	19.72	Bayern LB	470,00	8.25
3	TSKB	27,00	19.72	Belfius Bank	401,00	7.40
4	Vakifbank	27,00	19.72	Deutsche Bank	401,00	7.40
5				Trade Risks	350,00	6.15
6				Barclays	350,00	6.13
7				Royal Bank of Canada	341,00	5.98
8				ING Group	265,00	4.65
9				Royal Bank of Scotland	262,00	4.60
10				HSBC	252,00	4.43
Σ		136,89	100.00		3 746,00	66.47

Source: own compilation based on IJGlobal, 2015

The above table demonstrates the hectic nature of the European project bond market. In 2005, at the beginning of the period under review, only two players ruled the market, issuing project bonds with a total value of USD 335 million. By 2008, their number increased, although the amount tied up by the first 10 players shrank to less than one third. There were again four market players in 2011. Another increase took place in the circle of participants by 2014, and thus the first 10 players issued project bonds with a higher amount than before, covering 66.47% of the whole market.

Below is an analysis of the credit market of project finance by examining the amounts tied up by mandated lead arrangers.

Figure 5.
Value of the total and the European MLA markets between 2005 and 2014
(financially closed project value, USD million)



Source: own compilation based on IJGlobal, 205

The situation is better in the MLA market than in the bond market. Mandated lead arrangers offer and grant credit, which means more safety and predictability, both in planning and repayment for those who need financing. Loan financing is an accepted form of funding, so the demand for it is also higher. At the beginning of the period under review, when project finance was not yet that significant, Europe's share in the total MLA market was 35%, which can be considered a remarkable ratio. In the following years, with an increase in the value of investment implemented through project finance, a gradual decline in Europe's share was observed, with other continents, such as Africa and Asia, on the rise. Accordingly, the ratio stabilised at 30% in 2006 and 2007, although in 2007, due to ample liquidity prior to the crisis, the value related to the continent was 94.78% higher compared to the base year and 61.54% higher compared to the previous year. It is interesting that while the value of the MLA market declined by 18.04% in 2008, compared to the previous year, this decline was hardly felt in Europe (0.4%). As a result of the crisis, there was a major fall in the total value in 2009, although in global terms it was still above the base year (4.76%). In view of the scarcity of funds due to the crisis, in that year the continent dropped significantly, in terms of both share and value. Unprecedentedly, the European value amounted to 28.73% of the total value, falling short of the base year and the previous year by 13.72% and 55.53%, respectively. In 2010, compared to the surge in the total market, Europe improved considerably. While compared to the previous year the total market improved by 29%, the continent improved by 76.93%, exceeding the base year as well by 52.65% (the total market was 35.13% higher than in 2005). In that year, the market share was also close to 40%, which is the highest value in the average of the 10 years under review. Following the crisis, the financing of renewable energy sources, as well as the development of transport and social infrastructure, was more typical in Europe. In 2011, the share of Europe (32%) declined slightly, which was also perceived in terms of the amounts (11.24% compared to the previous year). The European MLA market hit a bottom in 2012, with the share shrinking to 26% and the value falling to half of the previous year's figure. The amount is a record low (68.83%) compared to the base year as well, to such a degree that even the sub-prime crisis could not exceed it. The underlying reason is that the Greek crisis mostly affected the continent, dragging not only Greece but the whole euro area into danger. Each country that was more or less linked to the Greek economy was deemed a dangerous area by finance providers. Moreover, the fluctuations in CDS spreads and country ratings did not facilitate the flourishing of the project finance market. The value of the base year was reached again in 2013, and an improvement was seen compared to the previous year as well. In 2014, however, the European MLA market did not grow and the market share declined (from 28.15% to 26.6%), keeping the value that can be linked to the continent at the 2005 level.

As in the case of the project bond market, it is also worth examining the role of the first ten players in four selected years for the MLA market. Following the logic of the previous table, 2005, 2008, 2011 and 2014 are examined in this case. As the lows in the MLA market were not in 2008 and 2011, but one year later, these two years are also examined in the table.

Table 3.
Top 10 participants in the European MLA market

	2005			2008		
		Value (USD million)	Share (%)		Value (USD million)	Share (%)
1	BNP Paribas	3 885,87	10.44	Dexia Group	5 407,02	7.49
2	UniCredit	3 546,38	9.53	Royal Bank of Scotland	4 471,90	6.19
3	Société Générale	3 020,68	8.11	West LB	3 230,63	4.47
4	Crédit Agricole Group	2 396,84	6.44	Grupo Santander	3 003,53	4.16
5	Caja Madrid	2 036,89	5.47	BNP Paribas	2 724,80	3.77
6	Dexia Group	1 780,46	4.78	BBVA	2 671,97	3.70
7	West LB	1 771,07	4.76	Caja Madrid	2 665,37	3.69
8	Royal Bank of Scotland	1 361,24	3.66	Caixa Geral de Despósitos	2 659,78	3.68
9	BBVA	1 135,22	3.50	Fortis Bank	2 655,78	3.68
10	Rothschild	1 066,50	2.86	Crédit Agricole Group	2 314,32	3.20
Σ		22 001,15	59.55		31 805,10	44.03
	2009			2011		
		Value (USD million)	Share (%)		Value (USD million)	Share (%)
1	Grupo Santander	1 960,70	6.10	BBVA	3 183,22	6.31
2	Caixa Geral de Depósitos	1 960,67	6.10	Société Générale	2 946,56	5.84
3	BBVA	1 875,38	5.84	BNP Paribas	2 394,52	4.75
4	BNP Paribas	1 404,46	4.37	Crédit Agricole Group	2 319,97	4.60
5	Crédit Agricole Group	1 306,97	4.70	Grupo Santander	2 231,63	4.42
6	UniCredit	1 236,10	3.85	KfW	2 048,75	4.60
7	La Caixa	1 186,32	3.69	UniCredit	1 995,23	3.96
8	Caja Madrid	1 146,16	3.57	Garanti Bank	1 609,41	3.19
9	Société Générale	1 075,32	3.35	Dexia Group	1 492,88	2.96
10	Banesto	1 032,86	3.22	ING Bank	1 395,52	2.77
Σ		14 184,94	44.79		21 617,69	43.40

	2012			2014		
		Value (USD million)	**Share (%)**		**Value (USD million)**	**Share (%)**
1	UniCredit	1 388,23	5.42	Garanti Bank	2 588,00	6.69
2	Bank of Tokyo-Mitsubishi UFJ	1 323,82	5.17	ING Bank	1 830,00	4.73
3	Société Générale	1 300,77	5.08	Société Générale	1 629,00	4.21
4	BBVA	1 004,02	3.92	BNP Paribas	1 484,00	3.84
5	Crédit Agricole Group	927,00	3.62	Yapi Kredi	1 483,00	3.83
6	Natixis	918,11	3.58	CréditAgricole Group	1 450,00	3.75
7	Deutsche Bank	872,94	3.41	Mitsubishi UFJ Financial Group	1 443,00	3.73
8	SMBC	803,14	3.13	Sumitomo Mitsubishi Financial Group	1 312,00	3.39
9	BNP Paribas	781,31	3.05	Isbank	1 294,00	3.35
10	HSN Nordbank	751,36	2.93	Natixis	1 276,00	3.30
Σ		10 070,70	39.31		15 789,00	40.82

Source: own compilation based on IJGlobal, 2015

As described above and shown in the table, the MLA market is much larger than the project bond market, entailing a high number of participants. Based on analysis of the first 10 participants of the MLA market, it can be established that in the six years under review their share declined steadily, although with brief interruptions, suggesting that the market expanded continuously. There were significant changes not only the participants but in the amounts as well, which corroborates the hectic nature of the market.

4. Summary

As shown in the above figures, the credit and bond markets of project financing are important for Europe as well as all other continents and countries. Given its high leverage, project finance is able to implement investment which could not be financed within the framework of traditional corporate lending. Because high leverage also means high risk, this form of funding is extremely sensitive to crisis situations and movements in the market. It can be concluded that the mortgage market crisis and the Greek crisis left a significant mark on both the credit and bond markets. The institutions affected the most by the mortgage market crisis were important market players prior to the crisis, which made the restoration following the crisis even more difficult. It could be expected that in the case of such a special form of funding, bond financing will play a role that is at least close to that of loan financing, as it has numerous advantages compared to the credit terms dictated by banks. As shown above, bond financing can only be interpreted as a complementary mode of financing, which is expressly sensitive to hectic fluctuations in the markets. In the 10 years under review, the project finance market survived two crises. Therefore, unless another major crisis shakes the world and Europe, we can trust that with the help of this product Europe and all the other continents will be able to implement even more investment of strategic importance from social and economic aspects as well.

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