
EU-Med Capital Market Integration and the EU's Covered Bonds Directive

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Revised November 2023

Abstract

I analyze the potential of the EU's Covered Bonds Directive (EU) 2019/2162 to promote the integration of Mediterranean Partner Countries (MPCs) into the EU's Capital Market Union. I identify legal and supervisory conditions conducive for a successful development of covered bond (CB) markets. A formal model is presented to show how covered bond finance could be introduced in a banking environment in such a way that problems of asset encumbrance and unsecured debt runs are at least mitigated. Next, I study the question to what extent the EU's covered bond framework is compatible with islamic concepts of banking and finance? Finally, some policy objectives of EU and MPC governments are pointed out which can be expected to benefit from secured forms of bank debt funding such as covered bonds.

Keywords: Covered bonds, Islamic banking and finance, financial integration.

JEL: D82, E44, E52, G01, G15

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1. Introduction

Capital Market Union (CMU) and financial integration are core policy objectives of the European Union. Much work still needs to be done before CMU is completed in the European Union. Even more challenging is the financial integration of the Mediterranean Partner Countries (MPCs) in the CMU. However, the effort may be rewarding: MPCs are widely seen as economies abundant in labor but relatively scarce in capital. Closer integration with the capital market of the EU may therefore be an important stimulus for economic growth.

In fact, it is the well-known Lucas (1990) paradox which needs to be addressed: Why does not more capital flow from the relatively capital abundant EU countries to the capital-scarce MPCs? The literature on the Lucas paradox has suggested a number of explanations why the relative scarcity of capital in middle income or developing economies does not necessarily imply a higher return to capital than in developed countries, see e. g. Akhtaruzzaman (2019) for a recent survey. One of these factors – often considered to be the most important one - is the cross-country heterogeneity in the quality of institutions (e. g. Alfaro et al. (2008), Azemar and Desbordes (2013), Göktan (2015)). More specifically, a few authors provide more detail by distinguishing different forms of capital flows (e. g. FDI, portfolio investment, bonds, bank loans, other forms of debt) and by linking non-FDI flows to financial development as a particular form of institutional quality, cf. Bailliu (2000), Atiq-ur-Rehman et al. (2020).

Clearly, financial intermediation is important for many forms of capital flows and, hence, the development of the banking sector, its regulatory framework and the quality of banking supervision in MPCs must be addressed when MPC capital markets seek integration with the EU's CMU. An important area where the EU has recently defined its standards in this regard is the regulatory and supervisory environment for covered bonds (CBs), a class of financial instruments which has proven both secure and successful particularly in financing mortgages or public expenditures. The legal framework is the „Directive on the issue of covered bonds and covered bond public supervision“, cf. EU (2019)².

In the EU, almost all long-term secured bank debt is held in the form of covered bonds and makes up more than one third of total long-term bank debt (IMF (2013), Ahnert et al. (2017)). This strong position of CBs in bank funding has its roots in a long tradition of these instruments in some European countries. For instance, in Denmark and Germany CBs were developed in the 18th century (cf. Wandschneider (2014)) and both countries are home to large issuers today. In Denmark, the total stock of CBs outstanding in 2021 was €455 bn or 135% of GDP. Issuers in Germany (€391 bn), France (€350 bn) and Spain (€243 bn) also have huge stocks of CBs outstanding – somewhere in the range between 10% and 20% of national GDP. Other major players in CB markets are banks from, e. g., Sweden, Italy and the Netherlands, cf. ECBC (2022).

However, usage of CBs in financing operations is very unevenly developed within the EU. In many other EU countries CBs are just niche products. This is because the legal framework for CBs is defined in national laws. In jurisdictions where no appropriate legislation exists, CBs cannot flourish. This is why the EU, in 2019, defined a principles-based framework for CBs in Directive (EU) 2019/2162, to be transposed into the national law of each Member State by July

² The author of this paper was the European Parliament's rapporteur on the proposed directive and accompanying regulation. He also was the Parliament's rapporteur on the preceding own initiative report on covered bonds, cf. European Parliament (2017).

2021. Thereby, best-practices from Member States with well-functioning CB markets were imbedded in national laws of all Member States.

Both in national laws and in Directive (EU) 2019/2162, the single most important feature of CBs is called „dual recourse“. It ensures that covered bond investors not only have a claim against the CB issuer, but, in case of insolvency or resolution of the issuing bank, also hold a *priority claim* against a „cover pool“ of high-quality assets or, more precisely, principal and interest generated by the cover pool assets. The cover pool assets consist mostly of mortgages and sovereign bonds. Regulation stipulates that non-performing cover pool assets are dynamically removed from the cover pool and replaced by other assets which satisfy the quality requirements for cover pools. Regulation also requires a certain degree of overcollateralization of the CBs. Moreover, the cover pool must be „bankruptcy remote“, i. e. cover pool assets are segregated from other assets of the issuing bank and become a part of the insolvency estate of the issuer only after all claims of CB investors have been satisfied.

By Directive (EU) 2019/2162, the EU not only aimed at „exporting“ successful CB legislation to other Member States. Rather, the Union hoped to define a „blueprint“ or „gold standard“ for CB legislation in third countries. Evidence for this is Article 31 of the Directive which charges the Commission to report „how an equivalence regime could be introduced for third-country credit institutions issuing covered bonds and for investors in those covered bonds, taking into consideration (...) the development of legislative frameworks in third countries.“ Since the US capital market has only a small share of CBs and mostly trades secured debt in the form of asset backed securities (ABS), the EU may, in fact, become a standard-setter in the world-wide market for CBs.

Clearly, being granted equivalence would be very attractive for many third countries since this would essentially integrate their developing CB markets into the EU’s capital market and would greatly facilitate capital imports to fund domestic economic activities like construction or public expenditure. It would also allow easier access to funds earmarked for energy-efficient green transition or sustainable development projects, as such market segments already exist in the EU’s covered bonds market.

Since the early 2000s, quite a few non-EU countries have introduced CB. This set of countries includes EU accession candidate Turkey and some countries from the European Neighborhood Policy (ENP), namely Morocco, Armenia, Azerbaijan and Ukraine, all of which have enacted CB legislation that is more or less in line with EU standards. Rumor has it that other countries, among them also some MPCs, consider doing likewise.

But most MPC countries still stand at the sidelines. This is surprising given fast-growing populations with mostly low incomes, greatly in need of residential investment and public infrastructure projects. In view of this, facilitating capital imports should be a prime policy objective.

Historical experience in Europe has shown that covered bonds are financial instruments well suited to fund economic development on a large scale (particularly in terms of housing). The first, necessary step to develop successful CB markets is almost costless and completely under the control of a country’s government and parliament: It requires legislation in line with Directive (EU) 2019/2162. The second step is somewhat costly, but still completely under government control: Setting up supervisory authorities with competent, honest and impartial staff.

If rule of law prevails, one might be tempted to think that the rest can be left to financial market participants. But this may be an over-simplified view of the world. For experience in recent years has shown that opening CB markets through national legislation does not necessarily entail a rapid growth in this debt instrument. In fact, some countries have had a rather stagnant development of their CB markets, while others saw strong growth.

The remainder of this paper is structured as follows: Section 2 explains the institutional requirements conventionally thought to be important for a successful development of CB markets. Section 3 is devoted to market problems of upstarting CB activities after the legal and regulatory framework has been established. I present a formal model of CB issuance by private banks to study risks of debt runs and issuer insolvency, i. e. hazards to financial stability. Section 4 discusses the introduction of covered bonds in islamic countries and addresses the compatibility of CBs with principles of islamic finance and Sharia-compliance. Section 5 briefly digresses on the Turkish experience with a covered bonds framework introduced in 2014. Section 6 concludes with a discussion of CBs in the context of MPCs' policy objectives.

2. Institutional Framework Conducive for Finance

In this section I start out by describing the institutional legal framework which has been identified by e. g. EBA (2016) or the European Union as conducive for successful finance:

Covered bonds are a form of collateralized debt securities backed by a pool of high-quality assets called the “cover pool”. These bonds are issued by commercial banks. In some cases, national legislation may also authorize other types of financial institutions to issue covered bonds. For simplicity, the term “bank” shall in the sequel denote any type of private company with the legal privilege to issue covered bonds. Covered bonds may have fixed or variable interest rates attached to them and they may either have a fixed maturity (so-called “hard bullet”) or – a newer development - they may provide for the possibility of maturity extensions (“soft bullets”).

Holders of covered bonds have a claim to interest and principal payments against the issuer of the bond. Should the bank be unable to satisfy this claim, i. e. in the case of insolvency or resolution of the financial institution, the covered bond creditors have a priority claim to the principal and any accrued interest from the cover pool assets. This is known as the principal of dual recourse. There is, in fact, a third layer of recourse since covered bond holders whose claims could not be fully satisfied by either the bank in operation or the liquidation of the cover pool would, by regular national insolvency law, typically also have a claim against the insolvency estate of the bank. This residual claim would, depending on the specificities of national insolvency law, be either *pari passu* with unsecured creditors or senior to unsecured creditors but junior to other preferred creditors.

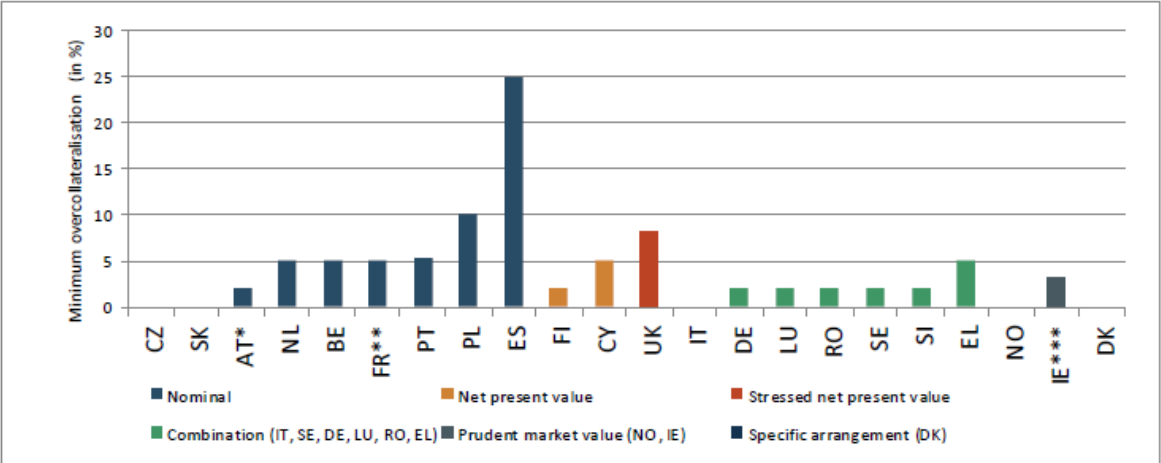
Unlike in the case of asset-backed securities (ABS), the cover pool remains on the balance sheet of the bank. Cover pool assets may actually be held by a special purpose vehicle (SPV) as in the case of ABS, but the principle of dual recourse ensures that covered bond creditors have a claim against the bank and not just a claim against the SPV. An SPV as the legal entity holding the cover pool assets may be useful because another distinctive feature of covered bonds is the segregation of cover pool assets. Here, segregation means that the cover pool assets are not a part of the insolvency estate of the bank. This requires that all cover pool assets are identifiable by the credit institution, that their separation is legally binding and enforceable, and that all

assets are protected from any third-party claims except on a subordinate basis. This ring-fencing of the assets safeguards creditors’ dual recourse.

Bankruptcy remoteness is a related principle of covered bonds. In essence, it stipulates that payment obligations attached to the covered bond should not automatically accelerate in the case of insolvency or resolution of the issuing institution. Rather, the cover pool administrator should be able to manage the cover pool as if the bank were in normal operations. Thus, fire sales of assets and the ensuing loss of coverage for the covered bond can be prevented. In general, bankruptcy remoteness requires that the cover pool administrator has set up an emergency plan which at any point in time specifies how the cover pool may be run if the issuing bank goes out of business.

In most jurisdictions, cover pools must meet certain overcollateralization requirements prescribed in the national covered bond legislation. These requirements vary by type of asset and by the base value on which they are defined, e. g. face value, prudent market value, net present value or net present value under stress. In percentage terms, EBA (2016) reports that overcollateralization requirements in the EU range from 0% (e. g. Czech Republic, Slovakia) to 25% (Spain). Figure 1 presents an overview of minimum statutory overcollateralization across EU Member States as given in the European Banking Authority’s 2016 report.

Figure 1
Minimum overcollateralization requirements in EU Member States



*IN AUSTRIA, 2% APPLY FOR TWO COVERED BOND FRAMEWORKS, AND THERE IS NO LEGAL REQUIREMENT FOR THE OTHER FRAMEWORK.
 ** IN FRANCE, 5% AND 25% ARE APPLICABLE.
 *** IN IRELAND, 3% AND 10% ARE APPLICABLE.

Source: European Banking Authority, EBA (2016, Figure 16, p. 55)

Cover pool assets are mostly mortgage loans (collateralized by physical assets such as real estate, occasionally also planes or ships) or loans to public entities (mostly government bonds, but sometimes also loans to public enterprises whose financial soundness is in some way guaranteed by the government). Loans large corporations or to small and medium sized private enterprises (SMEs) are commonly considered too risky. They do not belong to the set of eligible cover assets in most jurisdictions, even though there are ongoing discussions of creating a product similar to a covered bond but with higher risk under a name such as European Secured Notes (ESN).

For loans collateralized by physical assets such as commercial or private real estate, a public register should exist which records ownership and any claims by third parties on these assets.

Moreover, the mortgage or any other guarantee securing the claim for payment must be legally valid and enforceable without undue delay. Other loans may qualify as cover assets if the debtor has tax-raising powers or is guaranteed by a public institution with such powers. To provide transparency for covered bond investors, legislation may require the cover assets to be of similar structural features, lifetime or risk profile. It may also require that, apart from commercial or residential mortgage loans, only one other type of primary cover asset is included in the cover pool or that the revenues from the cover pool assets have a similar maturity structure as the payment obligations to covered bond holders. Still, a liquidity buffer, i. e. a stock of highly liquid cover assets apt to satisfy payment obligations on short-run notice, may be mandatory.

Covered bond investor protection is ensured by public supervision of covered bond programmes. An independent competent authority is charged with monitoring the issue of covered bonds and the compliance with the legal requirements in the relevant national laws. Issuers have to reveal the information necessary for effective supervision to the supervisory authority. They also have to make public detailed information on their covered bonds programmes (e. g. cover pool composition, statutory and voluntary overcollateralization, risk profiles, maturity structure, percentage of nonperforming assets) to allow investors to assess the financial soundness of the covered bonds.

In order to guarantee enforceability of claims, cover assets are usually required to be domestic assets or, in the case of the EU, assets which are located in the Common Market. However, EU legislation also provides for the possibility of cover assets in third countries, provided the covered bond and general insolvency legislation of the third country is assessed as broadly equivalent to EU law and enforceability of claims (without undue delay) is on a similar level as within the European Economic Area (EEA).

The equivalence assessment of third country legislation has – at the time of writing of this paper – not yet taken place. The European Commission will report on this by July 2024 to the European co-legislators and may at the same time submit a legislative proposal which specifies the criteria under which third country covered bond regimes may be accepted as equivalent. It is unclear how much time the co-legislators will need before a European law to this effect will be in force, but it is of obvious importance to MPCs to discuss with the Commission any relevant plans they may have or any relevant legislation that is already in force.

Being granted equivalence would make capital imports much easier for MPCs and come at lower cost, either in the form of EEA banks allowing for a certain share of investment in third country assets in their cover pools or by MPC banks running their own covered bond programmes and selling parts of their bonds on the large European capital market to investors who are interested in diversifying their risks or taking advantage of higher returns on assets located in MPC countries. Equivalence in terms of covered bond regulation and supervision would be a major step toward capital market integration between the EU and its Mediterranean neighbors.

However, jump-starting a covered-bond framework may not be as simple as it seems. As the previous discussion has made clear, many legal and institutional conditions must be met before a covered market could successfully develop. But these are necessary, not sufficient conditions. For instance, one other issue is the stability of the financial system and the danger of runs on deposits or unsecured bank debt when a bank starts ring-fencing some of its assets with the intention of securing claims of covered bond holders. I devote the next section to this problem and a possible remedy.

3. A Model of Covered Bonds and Runs on Unsecured Bank Debt

Covered bonds are issued by private banks or other types of financial institutions. In this section, I neglect the latter and focus on private banks which have not previously issued covered bonds. For instance, imagine a country which has only recently established the necessary legal and supervisory conditions for covered bonds. Prior to the issuance of CBs, the stylized balance sheet of the bank is given by

Assets	Liabilities
Low risk assets G	Deposits D
Medium risk assets M	Unsecured debt U
High risk assets H	Equity E

Let us think of this as the balance sheet in period 0. In period 1, depositors have a claim against the bank equal to $R_0^D D$, where $R_0^D \geq 1$ is the interest factor on deposits as determined by the money market in period 0. (Deposits can be withdrawn any time.) Unsecured debt can be withdrawn in period 1 only. In period 1, unsecured creditors have a claim against the bank equal to $R_0^U U$. Since unsecured debt is less liquid than deposits (and therefore riskier), $R_0^U > R_0^D \geq 1$. Again, R_0^U is the interest factor determined by the market for unsecured bank debt.

Risk is meant to include both credit risk and liquidity risk. Low risk assets G (government bonds) have a return factor of $R_0^G > R_0^D$. Higher risk assets have higher returns, i. e. $R_0^H > R_0^M > R_0^G$. Moreover, unsecured debt U requires higher returns than government bonds $R_0^U > R_0^G$. Similar relationships between returns of (performing) assets exist when assets are held from period 1 to period 2, i. e. $R_1^H > R_1^M > R_1^G > R_1^D \geq 1$ and $R_1^U > R_1^G$.

In period 1, shocks s^H and s^M wipe out part of the bank's assets. More precisely, a share $0 \leq s^H \leq 1$ of high-risk assets H becomes permanently non-performing and analogously for medium risk assets M . The shock is greater for the riskier assets: $s^H > s^M$. The shocks are revealed in period 1, but agents form expectations about the shocks already in period 0.

The bank is insolvent in period 1 if it is unable to service its debt obligations

$$R_0^G G + R_0^M (1 - s^M) M + R_0^H (1 - s^H) H - C < R_0^D D + R_0^U U, \quad (1)$$

where C are operating costs in period 1. For simplicity, let us assume that interest and principal on government bonds are just sufficient to cover operating costs and pay back all deposits (plus interest on deposits, if any), i. e. $R_0^G G = C + R_0^D D$. Moreover, let us assume that the insolvency laws of the bank's country of residence establish general depositor preference, i. e. depositors are senior to (other) unsecured creditors of the bank. Then, the characterization of bank insolvency in period 1 simplifies to

$$R_0^M (1 - s^M) M + R_0^H (1 - s^H) H < R_0^U U, \quad (2)$$

Suppose that medium risk assets M are mortgage loans and consider the introduction of covered bonds. There are at least two possibilities of doing so. First consider the case studied by Ahnert et al. (2014):

The bank ring-fences its mortgage loans M by creating a cover pool which is bankruptcy remote. (It stays on the bank's balance sheet, though). The bank uses the cover pool to issue a covered bond with nominal volume CB . The covered bond's return is given by the market-determined return factor R_0^{CB} . I assume that covered bonds have a rate of return greater than government bonds but less than unsecured bank debt, i. e. $R_0^U > R_0^{CB} > R_0^G$. Moreover, the rate of return on (performing) mortgages is substantially greater than the rate of return on covered bonds – otherwise the covered bonds would not be profitable. Hence, $E_0(1-s^M)R_0^M > R_0^{CB}$, where the first term is the conditional expectation in period 0 of the share of performing mortgages.

Legislation requires that the cover pool overcollateralizes the payment obligations of the covered bond in period 1 by a factor $\omega > 1$. Hence the nominal volume of covered bonds issued in period 0 is

$$CB = \frac{1}{\omega} E_0(1-s^M) \frac{R_0^M}{R_0^{CB}} M \quad (3)$$

The encumbrance of medium risk assets M in the cover pool worries unsecured creditors, whose claims now rely on high-risk assets plus any new assets the bank purchases with the revenues of the covered bond issue. If creditors find the bank's investment policy too risky or receive noisy information on a great (unfavorable) shock s^H , they may sell off their debt and cause a debt run which drives the bank into insolvency. To prevent this, the bank has to invest the proceeds CB in either medium or low risk assets.

However, if medium risk assets are mortgage loans, a quick, big investment in this asset class is probably infeasible. Mortgage loans are not regularly traded in large quantities and, moreover, it is likely that in previous investment decisions the bank has already selected the high-quality, well-performing mortgage loans, so that a similar quality may not be readily available. Hence, for the sake of simplicity, we will assume that the revenue from covered bond issuance is invested in government bonds. The balance sheet of the bank will therefore be

Assets	Liabilities
$G + \frac{1}{\omega} E_0(1-s^M) \frac{R_0^M}{R_0^{CB}} M$	Deposits D
Medium risk assets M	Covered bonds CB
High risk assets H	Unsecured debt U
	Equity E

Neglecting any junior claims of unsecured creditors against the cover pool (after covered bond holders claims have fully been satisfied), unsecured creditors would (in period 0) expect the bank to be insolvent in period 1 if

$$R_0^G \left(\frac{1}{\omega} E_0(1-s^M) \frac{R_0^M}{R_0^{CB}} M \right) + R_0^H E_0(1-s^H) H < R_0^U U, \quad (4)$$

Compare this to (2) which implies that - prior to any covered bond activity by the bank - unsecured creditors would expect the bank to be insolvent in period 1 if

$$R_0^M E_0 (1 - s^M) M + R_0^H E_0 (1 - s^H) H < R_0^U U, \quad (5)$$

The left hand sides of (4) and (5) “cover” the claims of unsecured creditors in the two scenarios. This coverage is the same with respect to high-risk assets, but differs with respect to the first terms on the left hand sides of (4) and (5) which pertain to the values and returns of government bonds or mortgage loans, respectively. Dividing these first terms by each other we obtain

$$\frac{R_0^G \left(\frac{1}{\omega} E_0 (1 - s^M) \frac{R_0^M}{R_0^{CB}} M \right)}{R_0^M E_0 (1 - s^M) M} = \frac{1}{\omega} \frac{R_0^G}{R_0^{CB}} < 1, \quad (6)$$

i. e. the coverage of unsecured bank debt has decreased because the bank has ring-fenced the medium risk mortgage loans for the purposes of covered bond investors and has therefore withdrawn a part of the protection so far enjoyed by unsecured creditors. In other words: Asset encumbrance due to the issue of covered bonds makes the investment position of unsecured creditors riskier and therefore increases the likelihood of a debt run. Ahnert et al. (2014) have analyzed this case in detail.

Now consider the second possibility for covered bonds issuance, a case not studied by Ahnert et al. (2014): As before, the bank issues a covered bond with face value CB , which, for simplicity, we assume to be the same nominal amount as in the case above. But rather than ring-fencing a pre-existing balance sheet item, e. g. medium risk mortgage loans, the bank starts out by immediately investing the complete revenues from bond issuance in low-risk government bonds and ringfences the government bonds in a cover pool. By construction, this risk borne by unsecured creditors is unchanged provided that the newly acquired cover pool assets are sufficient to satisfy the claims of the covered bond holders. If this were the case, there would be no increased risk of a debt run at all. The balance sheet would simply be:

Assets	Liabilities
Government bonds $G+CB$	Deposits D
Medium risk assets M	Covered bonds CB
High risk assets H	Unsecured debt U
	Equity E

where equity is unchanged. In period 1, the newly acquired government bonds ΔG are worth

$$R_0^G CB = \frac{R_0^G}{R_0^{CB}} R_0^{CB} CB = \frac{R_0^G}{R_0^{CB}} E_0 (1 - s^M) R_0^M M.$$

However, this coverage is not yet enough. In period 1, covered bond holders have claims $R_0^{CB} CB$ against the bank where $R_0^{CB} > R_0^G$. Further, to satisfy regulatory requirements, the cover pool must have overcollateralization ω . I assume that $\omega R_0^G > R_0^{CB}$ such that the overcollateralization requirement makes up for the lower return of government bonds as compared to covered bonds. It thus ensures complete coverage of the covered bond holders if all cover pool assets

are government bonds. But in order to achieve the necessary overcollateralization, the bank must also ringfence a share of its medium risk assets M .

This share must (in period 0) be equal to $(\omega-1)CB = \frac{\omega-1}{\omega} E_0 (1-s^M) \frac{R_0^M}{R_0^{CB}} M$. As before, this reduces the expected value of assets on which unsecured creditors rely. The expression analogous to (6) is

$$\frac{R_0^M E_0 (1-s^M) M - \frac{\omega-1}{\omega} E_0 (1-s^M) R_0^M M}{R_0^M E_0 (1-s^M) M} = 1 - \frac{\omega-1}{\omega} = \frac{1}{\omega} < 1, \quad (7)$$

However, this reduction (i. e. ω^{-1}) is less than the reduction in the first asset encumbrance case (i. e. $\omega^{-1} R_0^G / R_0^{CB}$, cf. (6)). The intuition of this result is simple: In the second case, the difference between the returns from government bonds and the interest to be paid by the bank to covered bond holders is internal to the cover pool and made up for by the overcollateralization requirement. In the first case, however, the overcollateralization in the cover pool cannot make up for the interest differential R_0^G / R_0^{CB} , since this is borne by the unsecured creditors (who, in addition, suffer from losing assets moved to the cover pool to ensure overcollateralization ω .)³

Therefore, the introduction of covered bonds in a new market involves less risk of a run on unsecured bank debt if it is done by defining the cover pool on newly acquired government bonds (second case) rather than on mortgage loans which already are on the bank's balance sheet (first case). Moreover, a cover pool initially made up of government bonds allows the bank to gradually replace government debt in the cover pool by mortgage loans as high-quality mortgages become available. This may be decisive advantage in "narrow" markets where a sufficient number of high-quality mortgages may not instantly be available.

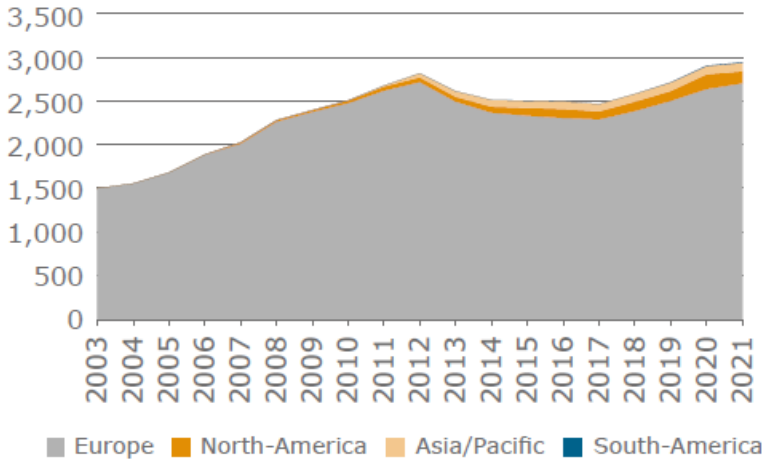
4. Covered Bonds in Islamic Countries

Covered bonds are basically a European financial instrument. Figure 2 shows the development of the total volume of outstanding covered bonds by major region over the last twenty years. While non-European issuers were practically non-existent prior to the financial crisis, small market segments have developed in North America, in Asia and the Pacific Region. This may have its root in the fact that covered bonds, unlike mortgage-backed securities, survived the financial crisis without any default or even sign of major stress. In fact, mortgage-backed covered bonds have increased in usage: While their share was roughly 50% of total issues prior to the financial crisis, it is today close to 90% and in absolute numbers the total volume of mortgage-based covered bonds is about three times as large as in 2007.

³ In the case of bank insolvency, the liquidation of the cover pool may result in some remaining wealth after CB holders' claims have been satisfied. Unsecured creditors have a (junior) claim on this wealth. Since, in the case of liquidation, cover pool assets may have to be sold at fire sale prices, it is not clear how valuable this claim is. This is why I have assumed that unsecured creditors ignore these residual (junior) claims. In the absence of fire sales, however, the expectation of residual claims would presumably be greater in the first than in the second case, since in the former the overcollateralization of the cover pool would not yet have been partly absorbed by making up for the difference between interest on government bonds and interest on covered bonds.

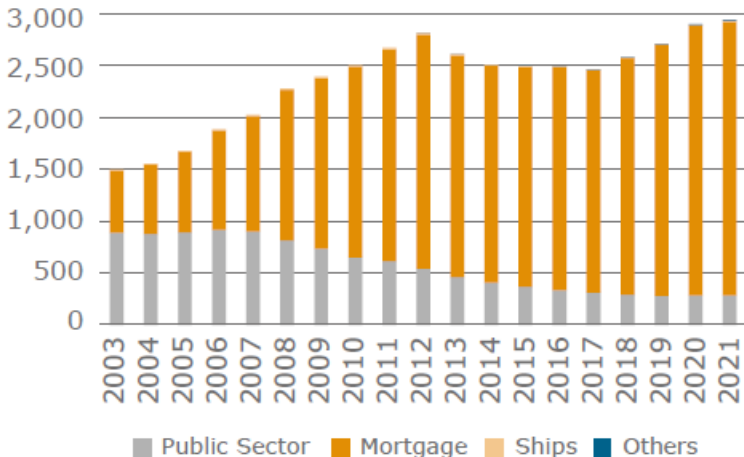
This suggests that covered bonds would be a useful financial instrument in countries with strong population growth and, consequently, strong growth in residential construction. One group of such countries are the Islamic countries, many of which are bordering on the Mediterranean. In fact, Turkey enacted covered bonds legislation in 2014 (Capital Markets Law No. 6362 and the Communiqué on Covered Bonds No. III-59.1) with the aim of fostering housing finance. Also, Morocco, after a long discussion which dragged on since 2010, saw the entry into force of “Loi No. 94-21 relative aux obligations sécurisées” in June 2022. Both government representatives (e. g. al Aissami and Talby (2013)) and external observers (e. g. Fitch Ratings (2017)) saw this as the appropriate step in response to the strong growth of retail mortgage lending in Morocco (and growth of the Moroccan financial market in general) in recent years.

Figure 2
Total Volume of Outstanding Covered Bonds by Region



Source: European Covered Bond Council, ECBC (2022, Figure 2, p. 552)

Figure 3
Total Volume of Outstanding Covered Bonds
By Type of Main Cover Asset



Source: European Covered Bond Council, ECBC (2022, Figure 1, p. 552)

While it is certainly too early to assess the success of covered bonds legislation in Morocco, the Turkish experience is interesting. In 2021, the total volume of outstanding covered bonds in

Turkey was close to one billion Euro, 895 million Euro, to be exact. All of these were mortgage-backed covered bonds. The 2021 volume is down from a pre-Corona peak of 2.5 billion Euro outstanding covered bonds in 2019. During the pandemic, in 2020 and 2021, there was almost no issuance of covered bonds in Turkey, just one very small private offering totaling 16 million Euro.

This is in marked contrast to the development of the Turkish covered bonds market prior to the pandemic. The first issue was a private placement in 2015 in domestic currency equivalent in volume to 128 million Euro. This was followed in 2016 by a public placement of 500 million Euro (in foreign currency, i. e. Euro). In 2017, more private placements followed, all of them in domestic currency and totaling the equivalent of 1.3 billion Euro. That is to say, the market volume of covered bonds in Turkey had increased by a factor of more than ten in just two years. However, in the next two years 2018 and 2019, new issues decreased to the equivalent of 766 million Euro and just 227 million Euro, respectively. This decline in new issues came along with a steep decline in annual GDP growth in Turkey from 7.5% in 2017 down to just 0.8% in 2019 – all still prior to the outbreak of Covid-19.

The reason for this unfavorable development in the Turkish covered bond market is probably to be located well beyond the sphere of covered bonds. In 2018, the Turkish economy went into a deep and probably still ongoing economic and financial crisis, which saw inflation rising and the exchange rate of the Lira depreciating – both dramatically. Obviously, nominal interest rates were on the rise, too. They increased from roughly 13% in 2017 to 24% in 2018. Obviously, such an environment is not conducive to retail mortgage lending and consequently, there was little need for refinancing operations of mortgage lending banks on the still young covered bonds market.

The small volumes still issued were all denominated in domestic currency. It seems the issuing institutions had little appetite to add exchange rate risk to their balance sheets, given the persistent loss of the Turkish Lira vis-à-vis the Euro. And there was another precaution: All issuers chose the innovative soft-bullet structure for their covered bonds, i. e. the contractual framework of the debt obligations allows for maturity extensions under certain conditions. This gives the issuers some flexibility should economic conditions in Turkey at the time of maturity of the covered bond make instantaneous full repayment difficult.

Overall, the Turkish covered bond experience suggests that there is indeed an enormous growth potential for this debt instrument in markets with young and rapidly growing populations. But this potential can only be realized in a stable economic environment in which private agents are willing to invest in real estate and where this is possible at reasonable interest rates. It must be noted, however, that the use of interest-bearing debt instruments may be objected to by devout Muslims as the Qur'an has been interpreted by many religious authorities as forbidding the payment of interest on loans.

This brings us to countries like Tunisia and Saudi-Arabia, both of which are currently discussing setting up a covered bonds legal framework. In terms of religious influence on legislation, these two countries are arguably as distant a pair of countries as one may find in the Arabic world. While Tunisia's legal system is greatly influenced by French Civil Law and, therefore, fairly progressive for an Arabic country, Saudi-Arabia's Basic Law requires compliance of all legislation with the Sharia and Quran. This requires particular forms of financial operations known as "islamic banking and finance", a field actively researched also in academia, see e. g. Abedifar et al. (2015).

But also Tunisia has a sizable proportion of the population who sympathize with Islamic ideas and whose support brought the (presumably moderate) Islamist Ennahda movement to government power in 2014. If the success of Ennahda in democratic elections is indicative, roughly one quarter of the Tunisian population is susceptible to Islamistic lines of thought. Therefore, even a rather secular Arabic country like Tunisia might find it appropriate to devise a covered bond legislation in such a way that the product would also appeal to agents who want to comply with Islamic principles.

In the following, I discuss the viability of a Sharia-compliant version of covered bonds. Before doing so, I would like to emphasize that this does not suggest that financial instruments in MPCs are or should be compatible with Islamic Law. In fact, in the Mediterranean, most are not – and this is not likely to change. But if Sharia-compliant covered bonds are possible, this would be an additional option for governments to contemplate. Whether such products would be exclusively used for collateralized debt (as is likely in Saudi-Arabia) or used next to standard Western-type products, or not used at all, is for governments to decide. Their decision will probably be influenced by their assessment of whether a Sharia-compliant covered bond would reach out to a sufficiently large share of their population (companies and consumers) which would, for religious reasons, reject the usage of the standard, interest-bearing product.

One key principle of Islamic banking and finance is the prohibition of *riba*, often interpreted to mean a prohibition of interest on loans. But as Pryor (2007) argues, the Arabic word *riba* should rather be translated as usury, not as interest. In fact, Islamic law (Sharia) permits that the spot price of a good differs from the total of a sequence of deferred payments for the same good and therefore accepts the time value of money. Hence, western scholars such as Sen (1998) have pointed out that a menu of deferred payments plans can be the optimal response of agents subject to restrictions on charging interest on loans. Glaeser and Scheinkman (1998), on the other hand, emphasize that such restrictions may have popular support in less developed, traditional societies because they essentially function as a primitive form of social insurance: If respected, they transfer resources from people with low marginal utility of money (potential lenders) to people with high marginal utility of money (potential borrowers).

Be this as it may, the fact of the matter is that many devout Muslims who want to live in compliance with Sharia reject interest-bearing debt certificates. There is little exact knowledge about how big this population is. Lipka (2017), in a study commissioned by the Pew Research Center, gives estimates of the percentage of Muslims in various countries who favor making Sharia the official law in their country. With respect to Mediterranean countries, he reports 29% of the population in Lebanon, 56% in Tunisia, 71% in Jordan, 74% in Egypt, 83% in Morocco, 89% in the Palestinian territories and 91% in Iraq. It seems safe to say that more than half of the Muslim population in the MPCs would prefer financial services which are Sharia-compliant – or would even accept nothing else.

For this reason, financial institutions (e. g. banks, insurance companies, mutual funds) have developed in Islamic countries which specialize on Sharia-compliant financial operations. This process started in the late 1960s or early 1970s and led, as a first major step, to the establishment of the Islamic Development Bank in 1975. The sector has seen strong growth since, with growth rates exceeding those of conventional finance (Abedifar et al. (2015)). While publicly owned institutions often spearheaded the development, private Islamic institutions quickly followed suit.

Today, there even are a few countries (e. g. Iran and Sudan) where non-Islamic financial institutions are virtually non-existent, but in most countries, there is competition between

Islamic and conventional banks. The market share of the former is typically lower (roughly about 20%) than that of the latter. But data on this is scarce and measurement is further complicated by the fact that conventional banks may also offer a menu of Sharia-compliant products to attract religious customers.

Not all pious Muslims will make use of such offers, though, as some may reject any business relationship with a company which does not strictly and in all its business activities adhere to the principles of Islamic banking and finance. In any case, it is obvious that the great number of Muslims striving for Sharia-compliance implies an important role for Islamic banks and Islamic financial products in MPC countries. It seems advisable that this be taken into account when the introduction of covered bonds is contemplated in these countries.

While the Quran and Sharia reject *riba*, this does not mean that capital may not earn a return. *Riba* is seen as an unjust “elevation” of wealth which is due merely to the passage of time. Entrepreneurial activity, however, is necessarily associated with risk-taking and there is nothing wrong, from an Islamic point of view, with paying a compensation for risk-bearing. Hence, the principle of participation (in entrepreneurial activity) lies at the heart of Islamic economics, thereby requiring a closer link between real and financial activities than in standard (western) economics.

Therefore, profit-and-loss sharing (PLS) agreements are economic arrangements compatible with Islamic finance. There are basically two types: *Musharakah*, a PLS arrangement where partners jointly invest in an asset and all partners have management rights, and *Mudârabah*, an alternative PLS arrangement where one group of partners provides the capital necessary to acquire certain assets and the other group of partners is charged with the management of the assets. Since the former have no management rights and merely provide capital, they are sometimes called the “sleeping partners”. Profits from the joint partnership are distributed according to a profit-division agreement and may provide for a fixed or a variable rate of return on capital (and a similar compensation for management effort). Losses, however, must be borne by the partners who gave the capital – otherwise a return for the “sleeping” partners would be *riba*. Not surprisingly, *Mudârabah* is used for mutual funds in Islamic finance.

From the perspective of a covered bond regime, *Mudârabah* may be a suitable instrument to make asset-based borrowing by the issuer of the covered bond Sharia-compliant. Clearly, investors in a covered bond could be modeled as the sleeping partners of a *Mudârabah* who own the assets of the cover pool but delegate their management to the issuer. If the assets are on average profitable, investors could be paid a fixed or variable rate of return on their capital and the bank could similarly receive a pre-agreed compensation for managing the cover pool - with any potential excess profit being treated as reserves to balance future losses (if any) and subsequently becoming part of the bank’s profits when the assets reach maturity. (Note that covered bonds in the European market do not necessarily pay fixed coupon rates: Covered bonds with variable coupons also exist.)

In a separate (or the same) agreement partners could in a similar way embed the dual recourse principle. Since the cover pool is on the balance sheet of the bank, sleeping partners of the *Mudârabah* would be seen as risk-takers in the bank’s entrepreneurial activities. As a further compensation for their risk-bearing, the bank would agree in the partnership contract that investors would have to bear losses on cover pool assets only if other bank resources (including reserves) would be insufficient to satisfy them.

Hence, as long as the bank is solvent, investors will have payouts under a *Mudârabah* agreement in exactly the same way as covered bond investors in Europe. Only in the case of insolvency of the bank and insufficient value of cover pool assets would investors suffer losses. This residual risk, however, is clearly tied to the entrepreneurial risk of having invested in the cover pool assets. It therefore satisfies the participation principle and should therefore ensure Sharia-compliance of the investor side of the (Islamic) covered bond construction.

There is, however, also the customer side of covered bond finance – the mortgage loans the covered bond issuer grants from the revenues of the covered bond issue. In Europe, people acquire housing or companies acquire commercial real estate by taking up an interest-bearing loan from a financial institution. A legally valid and instantly enforceable mortgage on the property serves as collateral. This construction would involve *riba* and would therefore be incompatible with Islamic finance.

The corresponding Islamic principle, called *Ijarah*, is in some sense much simpler. In general, *Ijarah* is a lease contract. It involves an asset, some piece of real estate, say, which is owned by the leaser. The leaser agrees to transfer the right of usage of this asset to the lessee who, in turn, pays pre-agreed amounts of money to the leaser. In one variant of *Ijarah*, the lease agreement ends with the purchase of the asset by the lessee, again at a price which has already been fixed when the agreement was signed. In terms of payment obligations and usage of the asset, this is very similar to real estate acquisition by means of a mortgage loan.

There are two important differences, though. First, ownership of the asset remains with the leaser until the end of the *Ijarah* contract. Hence, the leaser can easily repossess the asset whenever the lessee defaults on his payment obligations. The legal enforceability of a mortgage, by contrast, is just the first, necessary condition in sometimes costly and time-consuming judicial proceedings before the creditor eventually obtains ownership of the collateral.

In the context of covered bonds, ownership of the asset is precisely what is needed for a *Mudârabah*. In essence, the *Mudârabah* partners would, in fulfilment of the wishes of a customer who at the same time becomes the lessee of the asset, buy the real estate from the seller (a construction company, say), using the capital of the “sleeping” *Mudârabah* partner. The payments of the lessee to the *Mudârabah* partners generates income from the asset to be distributed between the covered bond investors and the bank. The fact that investors and bank are owners of the asset provides the tie between real and financial economic activity necessary to make this construction Sharia-compliant.

The second difference comes from the fact that the owner of the asset is responsible for its maintenance – except for damages caused by negligence or misconduct of the lessee. This arrangement makes the owner, i. e. the *Mudârabah* partner, bear some of the risk of the asset. A mere western-type lease contract would, by contrast, imply no risk-bearing on the part of the leaser and would therefore not be Sharia-compliant. Naturally, banks will not want to assume such ownership responsibilities and affiliated risks.

But there seems to be an easy way out: Banks may outsource their maintenance obligations to an external service provider and cover the risk of the assets by an appropriate (Islamic) insurance. In effect, maintenance and insurance will be paid for by the bank in Islamic settings and it will be paid for by the customer in western settings. There is little economic difference here if the lease payments of the customer take into account the extra costs the bank has with maintenance and insurance. This is particularly so if the number of assets is great and risks are

close to independent – as one would expect in a large cover pool with a great number of individual real estate objects.

The Islamic setup of a covered bond as sketched above would be a new form of what became known as *sukuk* in Islamic finance since the 1990s. A *sukuk* is a security which combines elements of conventional bond and equity finance. However, it is *not* a debt instrument (even though parts of the literature label it as such). Rather, a *sukuk* is defined on a tangible asset (or a pool of tangible assets) and assigns ownership of this asset to the holder of the *sukuk*⁴. It is not possible to define a *sukuk* as ownership of financial assets, e. g. receivables.

In its ownership property, *sukuks* are similar to firm equity. But while equity is ownership for an indefinite period of time, the *sukuk* has a maturity. At maturity, ownership falls back to the issuer of the *sukuk* (and previous owner of the asset). Technically, this is done by a repurchase agreement included in the contractual framework of the *sukuk*. Another distinctive difference with equity is the fact that equity denotes ownership of a whole company, whereas *sukuk* denotes ownership just on a specific asset (or set of assets).

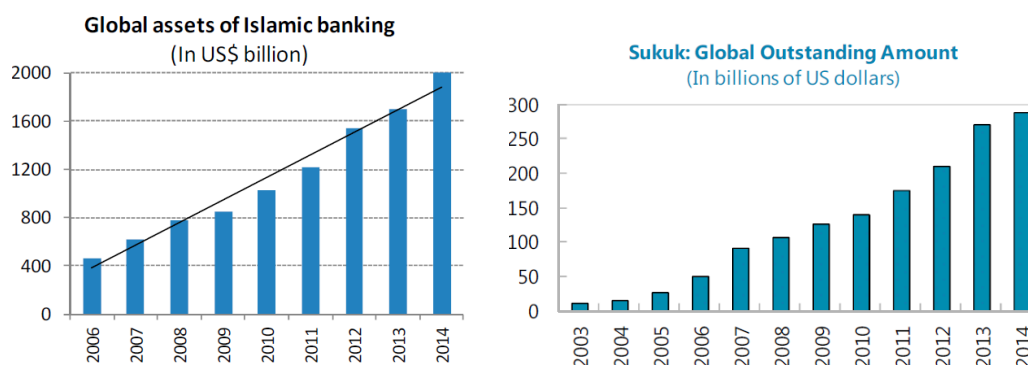
Similar to equity, *Sukuks* do not guarantee a certain return. However, they often generate a rather uniform flow of payments to its holder. This property, the fixed maturity of the *sukuk* and the additional revenue from the repurchase agreement at maturity make the *sukuk* similar to a bond. While covered bonds are *asset-backed* bonds, *sukuks* are sometimes described as *asset-based* bonds.

There are many variants of *sukuks*. Some have rather stable return profiles, for instance *sukuks* defined on *Ijarah* (a lease contract as described above) or on *Murâbahah*, a concept of a spot change in ownership along with a deferred payment agreement which includes a certain markup on the spot price. According to Thomson Reuters (2017), *Murâbahah sukuks* make up for 28% of the *sukuk* issues, with *Ijarah sukuks* being the third most popular type with 18%. But there are also PLS-based *sukuks* which account for 7% of the *sukuk* market in the case of *Musharakah* and 6% in the case of *Mudârabah*. As pointed out, an Islamic version of a covered bond market would probably rely on *Mudârabah sukuks* on the investor side and *Ijarah sukuks* on the retail (customer) side.

The *sukuk* market has expanded greatly in recent years. This is in line with strong growth of Islamic Banking in general. Hussain et al. (2015) reports a 17% annual growth rate of Islamic Banking even during the Great Financial Crisis 2009-2011 and the growth seems to have been even stronger in subsequent years, cf. Figure 4. Islamic banks operate even in European countries (Denmark, France, Luxembourg, Switzerland, United Kingdom) and some international giants like Citibank and HSBC operate Islamic banking windows. Among the products offered are also *sukuks*.

⁴ *Sukuks* may also be defined with reference to specific services or projects, i. e. to certain intangible assets.

Figure 4
Global Assets in Islamic Banking and Global Outstanding *Sukuks*



Source: Hussain et al. (2015, p. 13-14)

The *sukuk* market came into existence in the 1990s – rather slowly in its first years. However, already in 2004, a Western government (the State Saxony-Anhalt in Germany) issued a first *sukuk* of its own, cf. Hussain et al. (2015). In general, sovereign issuers led the market development, but corporate issuers quickly followed suit. In 2021, about 80% of *sukuk* issues came from sovereigns or quasi-sovereigns, and roughly 20% from corporates (Thomson Reuters (2022)).

The strong growth in Islamic banking products is presumably caused by two developments which reinforce each other: On the one hand, Muslim societies were, for a long time, not familiar with and not reliant on banks and bank finance. The concept and the operations of a modern bank are newer to Muslim societies than to societies in Europe or its offspring in America and Australia/Oceania. As a consequence, large parts of Muslim societies only gradually familiarize themselves with banking services (and make use of them if their faith permits). As it was realized that western-style banking may involve *riba*, devote Muslims had (and have) a tendency to shy away from such operations. But since banking services can open up new and so far unexploited economic opportunities, many Muslims took advantage of similar services if offered in a Sharia-compliant way – and still do so at increasing numbers.

On the other hand, Muslim countries have seen strong economic growth. Not necessarily on a per-capita basis, but there was solid growth in total GDP due to strong population growth and a young, labor-abundant work force. While economic growth is somewhat less impressive in the Middle East and North Africa (MENA) region than in the Gulf Cooperation Council (GCC) countries, population growth is exceptionally high by European standards everywhere in the Muslim world and young adults, obviously, need housing. With equity from own or family savings being scarce, some sort of loan will usually be necessary to finance housing. Hence, the strong growth in Islamic types of loans, and, by deduction, the potential for covered bonds as a financial instrument which complies with the Sharia-requirement that finance is in some way strongly tied to ownership of underlying (tangible) assets.

5. The Turkish Experience

The previous section gave already a quantitative description of the development of the Turkish covered bonds market. I give some more in-depth information here, since the situation and development in Turkey may in some respects be quite instructive for other Muslim countries when contemplating the introduction of covered bonds.

First, Turkish law defines two types of covered bonds: Asset-backed covered bonds (ABC) and mortgage-backed covered bonds (MBC). Neither type is “Islamic”, i. e. designed to be Sharia-compliant. This is not surprising, given that Turkey still is a laicist state. Eligible cover assets for both type of bonds are defined in Article 9 of the “Communiqué on Covered Bonds No. III-59.1”. Here, ACBs are defined as covered bonds backed by receivables from financial institutions arising from consumer loans or commercial loans, receivables from certain lease contracts, receivables from the Turkish Housing Development Agency arising from the sale of real estate and certain long-term foreign currency loans extended by Turkish banks for government projects. Such assets would, in their majority, not be eligible cover assets under EU law and no Turkish bank has, to my knowledge, ever made use of the legal possibility to issue ACBs.

Rather, only mortgage-backed covered bonds, MCBs, have been issued. There was a great number of construction projects (residential, commercial and infrastructure) in the Turkish boom years 2013-2015, so Turkish banks had no problems to just grow their loan books in order to set up their cover pools. This was so even though it is estimated that only about 30% of Turkish customers take up a loan (and grant a mortgage) to finance housing. The remaining 70% either make exclusive use of equity or arrange finance by means of promissory notes given to the construction company. Hence, it seems there is a considerable potential for growth in bank loans on the retail side if banks are able to offer attractive financing conditions.

The legislative procedures went smoothly. There were no major objections or concerns by stakeholders – all involved parties saw the covered bond legislation as an innovation and an improvement. This was particularly true for the finance community. Asset encumbrance or debt runs of unsecured creditors were no concern and there was, at the entry into force of the legislation and at about the time of the first covered bond issues, never any sign of such developments. Stakeholder interviews conducted as a part of the research presented in this paper also indicated that this risk was largely discarded as theoretical and of no significant empirical relevance.

Turkish banks had started mortgage lending in 2007 (not yet based on covered bonds as refinancing instrument). Hence, in 2015, when the first covered bond was issued, there was no shortage of independent appraisal companies specializing on assessing real estate, even though appraisal companies have to satisfy certain quality standards and need approval by the Turkish Capital Market Board.

There may have been a shortage, though, of human capital qualified to act as cover pool manager or independent cover pool monitor. However, Turkish issuers resorted to Turkish subsidiaries or partners of big global consulting firms like Ernst & Young, KPMG or Deloitte. Advice was also sought from European banks or rating agencies (Moody’s, S&P, Fitch) which, obviously, were monitoring the situation constantly. This led to a learning and adaptation process in Turkish banks and capacity-building in terms of human capital.

One of the main incentives for Turkish banks to issue MCBs was the ability to issue bonds denominated in Euro. At the time, only one Turkish bank (Vakıfbank) had a swap agreement with a European bank (and this is still the case today). There is no point issuing a bond denominated in Euro if the bank does not have a swap agreement. Vakıfbank issued the first Euro denominated MBC in 2015 and a couple of other Turkish banks (Garanti BBVA, Akbank, Yapi ve Kredi and İşbank) issued MCBs in Turkish Lira.

There were basically three reasons for issuing covered bonds. First, prior to 2014, long-term bonds in Turkish Lira were not common. But for the mortgage loan book, long-term bonds provide a better maturity structure match and, with mortgages as cover assets, long-term bonds should be viable products on the capital market. Second, if the MCB was denominated in Euro, banks would have access to Euro long-term finance at a lower spread than previously due to the safety of the covered bond product. Third, covered bond investors are different from the standard investors Turkish banks had worked with and, hence, covered bonds were seen as a welcome opportunity to widen the investor base.

Not all of these hopes worked out, but the Turkish covered bond market certainly had a good start. All Turkish tier 1 banks established their covered bonds programmes and issued covered bonds either in Turkish Lira or in Euro. International financial institutions like the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC, part of the World Bank Group) were among the first investors. The volume of Turkish covered bonds outstanding grew at strong rates until 2019. But the Turkish economy entered a grave crisis in 2017 from which it has still not recovered. It was this crisis (and not the Covid-19 pandemic) which made new issuances of covered bonds stall. Except for a very tiny (floating coupon) issue in 2016, no new covered bonds have been issued after 2019. As some of the earlier MCBs matured, the total volume of outstanding bonds has recently decreased.

The takeaway of the Turkish experience seems simple: Covered bonds open up promising economic opportunities for private households, companies and financial institutions. Legislation can be introduced with little political opposition, human capital shortages can be overcome, and there may be plenty of eligible cover assets. Domestic banks may find it attractive to set up their own covered bonds programmes and issue bonds in domestic or foreign currency. Investors, both institutional and private, may be very willing to invest in these new products. But key to all this is a stable and reliable macroeconomic environment.

6. Conclusions: Covered Bonds and Policy Objectives

Economically, covered bonds have many attractive features. Some have been mentioned in the body of the paper, but one more should be singled out: Covered bonds contribute positively to the stability of the financial sector because they facilitate the management of liability maturity mismatches.

The recent turmoil in the Western banking systems is indirect proof of the stability-inducing role of covered bonds: The troubled US banks Silicon Valley Bank (SVB) and First Republic Bank (FRB) relied in their maturity mismatch management basically on deposits and on government bonds where the latter had incurred large losses due to the Fed raising nominal interest rates. Deposits, however, are highly volatile and susceptible to runs. This caused the problems. More long-term funding e. g. with covered bonds would reduce the dependence of such banks on deposits⁵.

Financial stability is an important policy objective of the European Union. Due to the possibility of cross border contagion, this objective extends beyond the border of the EU. If MPC banks

⁵ Note, coincidentally, that after the weekend Swiss giant *Crédit Suisse* had to be saved from imminent default, the bank's covered bonds opened Monday morning with essentially unaltered quotations. The same was true for covered bonds of *Deutsche Bank* when, merely a week later, rumors spread that this large German bank might also be in trouble.

were funded also by covered bonds, financial stability in the EU's neighborhood might be increased.

While advantages of covered bond finance have been discussed in multiple dimensions in this paper, only a single potential disadvantage has been identified and analyzed either here or in previous research: The (possibly rather theoretical) risk to financial stability when asset encumbrance worries unsecured bank creditors. The absence of any other negative finding so far may have a surprisingly easy explanation: The introduction of an (optional!) new financial instrument is likely to be a Pareto improvement. For, obviously, all agents are free to use pre-existing financial instruments and will, therefore, only make use of covered bonds if this usage is advantageous to them. Hence, provided markets are functioning, the existence of an additional financial instrument should be welfare increasing. This implies that a negative impact of CBs can only occur if there is some form of market failure. In fact, one such market failure (runs on unsecured bank debt due to some kind of bubble or herd behavior) I have dealt with in Section 2 of this paper. But no other market failure related to covered bonds seems to have been identified so far.

However, there are obstacles to the successful introduction of covered bonds. First, covered bonds legislation is embedded in general insolvency law. In many MPC countries there either are no laws on foreclosure or foreclosure laws are not applied in real life. It may be quite a challenge to change this – and it must be changed before any attempt of setting up a covered bond framework based on mortgages can be introduced. (The same holds for covered bonds defined on receivables).

Second, it is not clear if the volume of available (high quality) mortgages is sufficiently great to back a covered bond. In the small Baltic countries (which decided to set up a joint covered bonds regime to enlarge the market and in acknowledgement of the fact that Baltic banks work on a cross border basis anyway), one single covered bond issue in 2020 basically sucked up all mortgages available as cover assets. Similar problems might face small MPCs. The Baltic solution, however, should also be available to MPCs: Team up with like-minded countries in the area (possibly the immediate neighborhood) to increase the size of the retail market. The European Union could put diplomatic effort into negotiating such efficiency enhancing agreements.

Third, legislative speed is a problem. It took Morocco twelve years to finalize its covered bonds legislation. The European Union will set up an equivalence regime for covered bonds rather soon: A report by the EBA is commissioned for 2024 and the legislative framework on third-country equivalence may come as soon as 2025. While MPCs can, in principle, satisfy equivalence conditions any time thereafter, it might be advantageous for them to use the momentum and coordinate their own legislation with the criteria for equivalence to be decided by the EU as long as these criteria are still under discussion and may possibly be written with an eye on what happens in MPCs legislative processes.

Third country equivalence would make the covered bonds of a non-EU country UCITS-compliant (Directive 2009/65/ relating to Undertakings for Collective Investment in Transferable Securities). It might also make the covered bonds compliant with the EU's Capital Requirement Regulation (CRR), so that they receive beneficial treatment under the CRR. Hence, equivalence would be very important for enlarging the investor base for covered bonds issued by financial institutes in non-EU countries.

Equivalence would also be desirable from an asset management perspective. For with equivalence, it would be easier for issuers in both the EU and in MPCs to diversify their mortgage portfolios and allow for a certain (albeit probably limited) share of mortgage loans on real estate outside their own territory. This would greatly facilitate capital imports by MPCs, either in the form of foreign banks funding domestic housing or in the form of domestic issuers finding foreign investors more willing to buy their bonds if part of the cover pool consists of objects located in the EU.

The EU and MPCs share a number of policy objectives. This is particularly true for policy areas such as climate change, energy transition and digitalization. It is probably also true for economic development, mitigation of brain drain and migration. Clearly, such projects can sometimes be financed by covered bonds. In fact, a number of Muslim countries (Kuwait, Qatar, United Arab Emirates (UAE), Pakistan and Bangladesh) have already modified their capital market regulations to allow for “green” bonds and “green” *sukuks*.

The most suggestive measure here concerns private energy consumption. Energy efficiency in residential (and commercial) buildings in MPCs is generally very low. Great amounts of energy are spent on air conditioning in the hot months and on heating in the cold part of the year. Buildings are often badly insulated and much of the energy used up for cooling or heating comes from fossil sources. Governments could sponsor “green” covered bonds (or *sukuks*) earmarked to finance energy efficient buildings – either newly built or modernized. In fact, since the government will have to subsidize such energy-saving investment, it might be advantageous if “green” government bonds would also be eligible cover pool assets – provided the government is solvent and debt is sustainable.

Further, solar energy or the transformation of solar energy into hydrogen (and subsequent export thereof) is probably one of the few comparative advantages MPCs enjoy over their EU competitors. Moreover, if world demand scales down fossil fuel consumption, MPCs reliant on oil or gas exports urgently need a viable alternative to prevent tumbling into secular recession and outward crisis. Here, solar energy parks (and hydrogen production) may be one way out. But such parks require lots of space, i. e. real estate that needs finance. Again, covered bonds could contribute to this.

Digitalization requires infrastructure investment – again, something covered bonds may facilitate in terms of finance. With digitalization, employment opportunities may open up for employees in MPCs: Rather than emigrating to the EU, they may find that European companies will outsource some of their activities and hire employees in MPCs who will work remote. As a first step, this is likely to mitigate the loss of human capital for MPCs. As a second step, however, the income earned in MPCs will trickle down to less qualified people and, joint with the human capital of those who have decided to stay, may stimulate economic growth in MPCs. Hence, in a long-run perspective, this may also alleviate migratory pressures.

Much of this may be more wishful thinking than a not-to-distant economic development. But conclusions may and should show perspectives, even if long-run, even if speculative. The important message to convey, however, is the desirability of financial integration. If this is done between MPCs and the EU, closely tying finance to tangible assets like real estate, then countries would go a step in the right (and promising) direction.

In the case of covered bonds, we can go much farther than such rather general statements. The EU has enacted a legislative framework for covered bond issuance and covered bond public supervision. This sets a standard on a market where financial institutions from EU countries are

by far the dominant players. Policymakers in MPCs are well advised to contemplate legislation which aligns with the EU standard and seek recognition of third-country equivalence by the relevant EU bodies. This would create markets for collateralized debt in MPCs and integrate these markets in the corresponding segment of the large EU capital market.

To achieve this goal, a number of tasks have to be completed: First, the legal requirements must be shaped: General insolvency law, foreclosure proceedings and specific covered bonds legislation must be devised such that they align well with each other and with the purpose of securing debt by collateral assets as set out by the EU covered bonds framework. Second, institutions must be created or existing institutions must be trained to perform the supervisory tasks and enforce legal claims of creditors reliably and without undue delay. Third, the government and financial institutions must hire or train human capital able to deal with the complex issues of covered bonds issuance, cover pool management, and covered bond public supervision.

These tasks may be demanding, but they are – as Turkey has shown - certainly doable. It may be advisable to consult and possibly team up with experienced commercial issuers in the EU, with the European Bank for Reconstruction and Development or with the World Bank Group – all of which have assisted with similar endeavours elsewhere. Finally, fostering development and integration of Southern Mediterranean countries' markets for collateralized debt in their EU counterpart would be just the kind of task the Union for the Mediterranean has been created for.

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