REGIONAL CENTRAL COUNTERPARTY

A SOLUTION FOR CENTRAL AND EASTERN EUROPE

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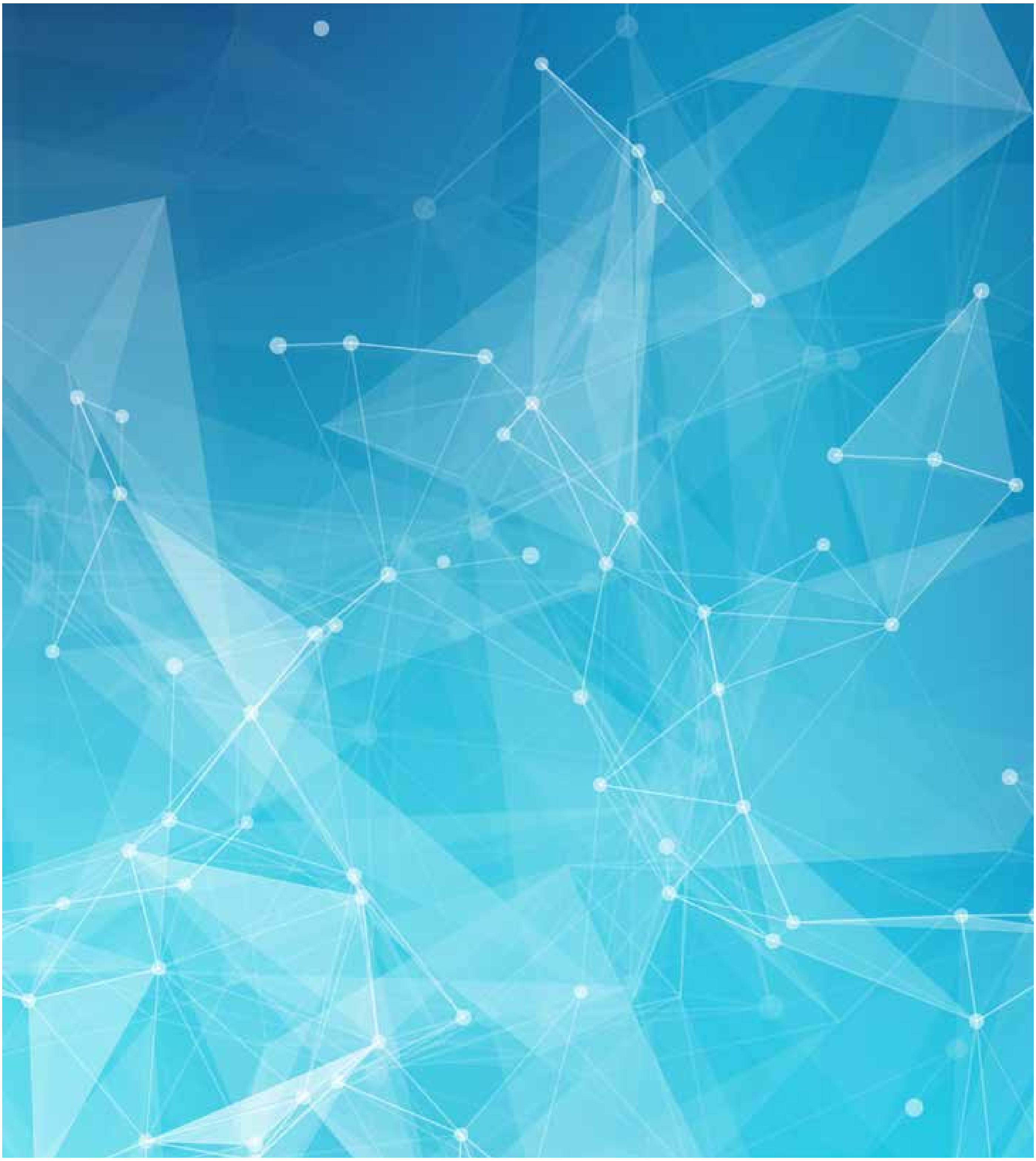

OLIVER WYMAN

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European Bank for Reconstruction Development (EBRD) and Oliver Wyman have published a report assessing the feasibility of a regional Central Counterparty in Central and Easter Europe.

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EXECUTIVE SUMMARY

Economies in Central and Eastern Europe (CEE) have made significant progress in converging with the rest of the European Union (EU) over the past 20 years.

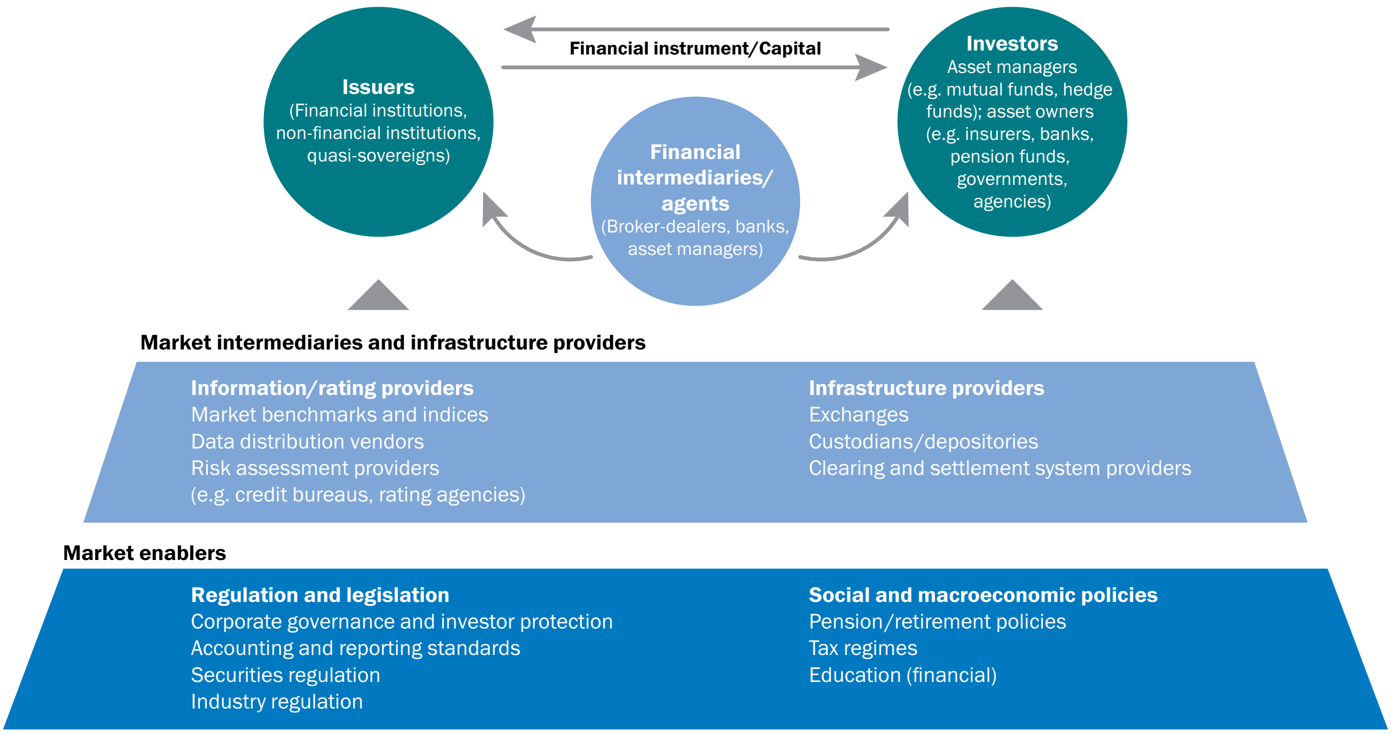
However, there is potential for greater convergence. With the establishment of the Capital Markets Union initiative at the EU level and a new EU-wide regulatory regime, CEE countries have an unprecedented opportunity to accelerate the development of their local capital markets to sustain economic growth. Part of the answer lies in overcoming the current fragmentation of the local capital markets in order to appeal to foreign investors

In light of this, the EBRD and Oliver Wyman decided to launch a report assessing the feasibility of a regional Central Counterparty (CCP). This assessment has found that the creation of a regional CCP across CEE countries will further drive capital markets development and economic growth.

Our finding is grounded in three statements:

First, the growth, deepening and diversification of local capital markets is essential for economic convergence in the CEE region. Today, CEE local capital markets lag behind their European peers in terms of the number and size of the markets as well as transaction volumes and international investment, after adjusting for the relative size of the economy. By reducing this gap, officials can expand access to debt and equity financing for local businesses and bring fresh dynamism to local economies. The latest figures from the World Bank for the EU and US economies demonstrate a clear relationship between economic development and capital markets development.

Figure 1: The capital markets ecosystem



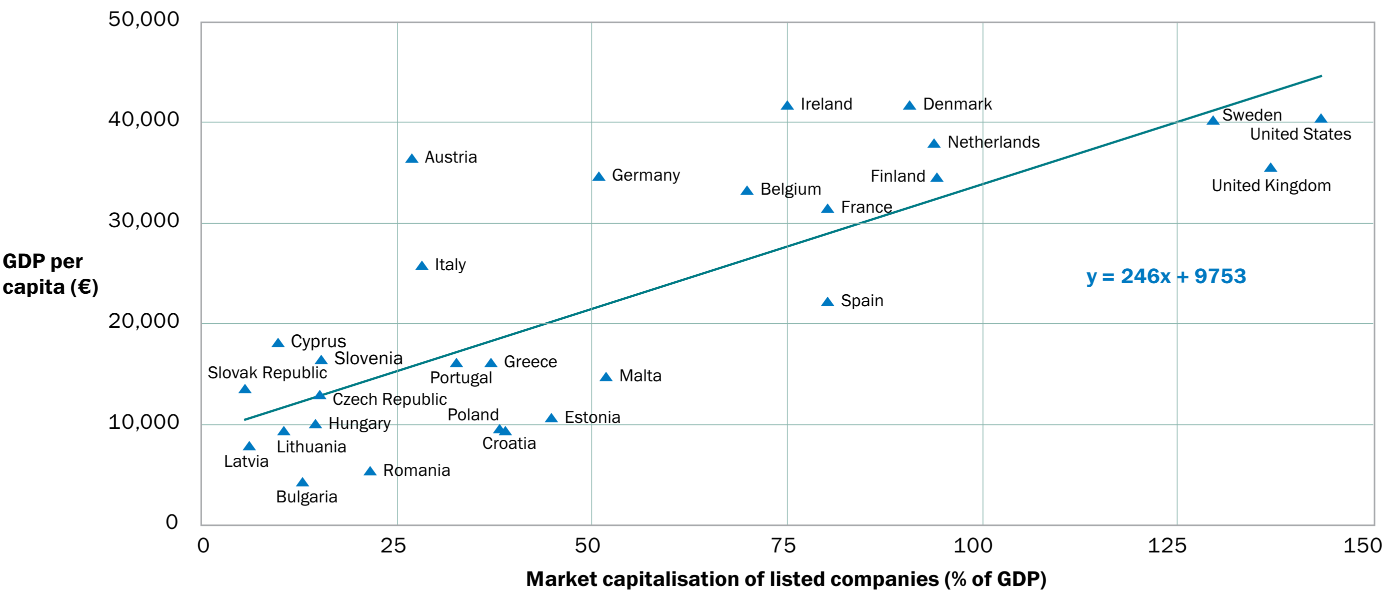
Second, central clearing via a CCP is a prerequisite for the development of the local capital markets according to international standards. Officials across the world have responded to the 2008-09 financial crisis by expanding the role of central clearing in capital markets in order to de-risk the financial system. In the EU, the European Market Infrastructure Regulation (EMIR) has established a harmonised set of requirements for CCPs across member states. The result is that all major exchange-traded markets in the EU rely on CCPs for central clearing; by contrast, central clearing is limited primarily to the larger markets in the CEE region (Austria, Greece, Hungary and Poland); other local CEE markets mostly have clearinghouses that provide netting services, but do not mitigate the counterparty credit risk. International investors have come to expect central clearing in these markets, especially in countries where assessing the credit worthiness of local counterparties is not straightforward. We therefore believe that a CCP will foster the growth, deepening and diversification of local capital markets through three mechanisms:

- **More international investment:** Increased international investor trust and hence flow of international investment
- **Improved liquidity:** Enhanced efficiency of market intermediation for established brokerages by reducing the risk cost
- **Resilience:** Improved solidity of the financial system due to the risk mitigation effect of the CCP

Third, the creation of a regional CCP is the most economically viable option for bringing central clearing services to CEE capital markets on a broad basis. This applies especially to markets that do not use the services of a CCP today, but also others that operate comparatively small CCPs. A regional CCP would require 80-90 per cent less upfront investment relative to the creation of CCPs in each country, largely due to the €9.4 million minimum capital requirement under EMIR regardless of the CCP's size (see Table 1). The regional CCP would also bring cost synergies, due to the highly scalable nature of the business, as well as revenue synergies by attracting a broader set of clearing members to each country, notably large international investors. In western Europe, cash product central clearing is increasingly consolidated, given the aforementioned synergies. Central counterparties such as EuroCCP have been serving multiple European markets, demonstrating the feasibility of cross-border clearing.

However, the real economic prize in the creation of the regional CCP is deeper and more liquid capital markets. Based on the latest figures from the World Bank in 2013 (see Figure 2), every 10 percentage points that deepen equity markets in GDP terms will yield an approximately €2,500 increase in per capita GDP. Moreover, the authorities acquire a far more effective tool to deal with systemic crises.

Figure 2: Per capital real GDP and market capitalisation, as % of GDP (EU countries and USA, 2013)[1]



1 Excludes Luxembourg, which is an outlier with high GDP per capita and market capitalisation as a % of GDP.
Source: World Bank, Economist Intelligence Unit, CEIC

We propose the creation of a regional CCP to cover EU members in central and eastern Europe, with the potential to expand further south (for example, Serbia) and east (for example, Ukraine) over time. The regional CCP would be established through the expansion of an existing CCP's activities, in order to leverage existing capabilities and to avoid the need for a new application for authorisation to supervisory authorities. For example, one of the existing CCPs in the region could be the "Foundation CCP" (AthexCLEAR of Greece, CCP.A of Austria, KDPW of Poland or KELER CCP of Hungary). Regardless of the solution, the regional CCP's capital structure would be opened up to new shareholders to allow for the participation of stakeholders from the local capital markets. Mechanisms would need to be implemented to ensure that the regional CCP could operate under an efficient governance structure.

Our five-year business plan analysis suggests the regional CCP will be economically viable as a for-profit business with required rates of return on capital for shareholders, with much more significant payback in terms of economic growth and risk mitigation. There are risks associated with the regional CCP, most notably in the design of the governance structure, implementation and the potential for cross-country contagion under acute stress conditions. In addition, national stakeholders would have less flexibility to set membership criteria and pricing structures for their own markets. Some of these challenges can be addressed through careful planning; others should be assessed relative to the benefits of better integrated capital markets across the region.

In summary, a CEE regional CCP will bring benefits for local economies and all key stakeholders in the local capital markets. Central clearing will improve local financial stability, increase transaction volumes and ultimately result in increased access to capital for local businesses. For local exchanges, brokers and Central Securities Depositories (CSDs), the increased transaction volume would ultimately result in top-line growth. While the introduction of central clearing would increase transaction costs (by virtue of introducing a new market infrastructure service) and a regional CCP could affect the businesses of the local clearinghouses, we believe the transaction volume and cost benefits of a regional CCP far outweigh these factors over the medium term.

This report is divided into seven sections: Section 1 reviews the current state of the CEE capital markets; Section 2 covers the growing importance of central clearing and European regulations affecting CCPs; Section 3 explains the rationale for creating a regional CCP and potential risks; Section 4 describes the options for the regional CCP, while Section 5 presents the business case for the regional CCP; and the report closes with conclusions in Section 6 and next steps in Section 7.

Table 1: Cost of a national CCP versus a regional CCP in a CEE country

	Building a national CCP	Regional CCP
Capital required	€9.4 million per country, including EMIR minimum capital requirement of €7.5 million and contributions to default funds	Increase in required capital of €1-1.5 million per country
Upfront costs (IT development, operating model adjustments, EMIR application)	€1-3 million per country	€0.1-0.2 million per country
Total upfront investment	€10-13 million per country	~€1.5 million per country[2]

2 Figure represents the incremental investment required to expand the regional CCP into a new country.
Source: Oliver Wyman analysis

CEE CAPITAL MARKETS

CEE capital markets are underdeveloped relative to their European and North American peers, due to the lack of liquidity and limited investment from foreign investors.

Capital markets play an important role in economic development by providing access to debt and equity finance for non-financial corporates. European capital markets in the aggregate have grown steadily since 2009, in terms of transaction volume (see Figure 3), although they still lag behind the markets in North America by a factor of almost three. The European Commission's Capital Markets Union and new European-level regulations aim to close this gap over time by facilitating market access and improving market liquidity through the creation of harmonised rules and approaches across member states. Capital markets development is thus expected to accelerate over the medium term in Europe. For CEE countries, this presents an opportunity for a step-change in economic growth through the development of local capital markets.

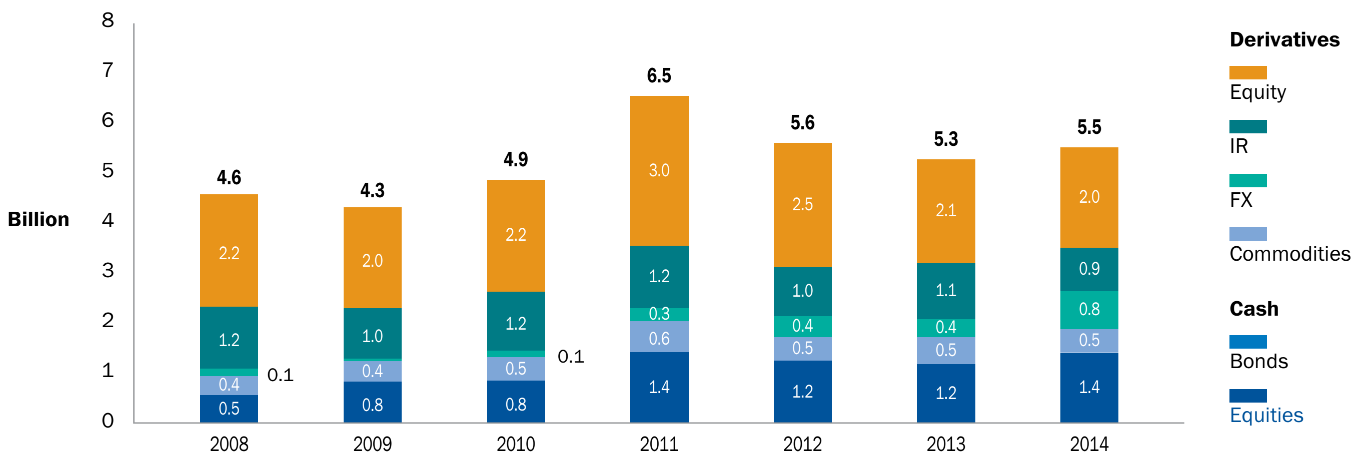
Today's local capital markets in the CEE region[3] are underdeveloped relative to the rest of the EU in terms of market size, level of foreign equity investment and the range of products. This is partly due to a lack of liquidity and the difficulty in assessing counterparty credit risk in the CEE. International investors have also highlighted market fragmentation, limited scale and regional harmonisation as drivers of under-development.

There is potential for significant growth in CEE cash markets and foreign investment.

Cash markets exist in every CEE country examined as part of this study. However, transaction volumes lag significantly behind EU peers after adjusting for GDP (see Figure 4). For example, equity turnover in the CEE was only 10 per cent of the region's GDP in 2013, while it was 74 per cent for the EU (excluding CEE). Many CEE stock exchanges have a limited number of listings and a high concentration of market cap in a few names. For instance, out of the 69 companies listed in the Budapest Stock Exchange (BSE), the top 10 companies contribute 70 per cent of the total market capitalisation.

Partly due to the market's limited scale, CEE countries receive a small amount of foreign equity investment relative to the sizes of their economies. Even though the CEE represents 7 per cent of the EU's GDP, foreign equity investment in the local markets accounts for only 1 per cent of the EU total (see Figure 5).

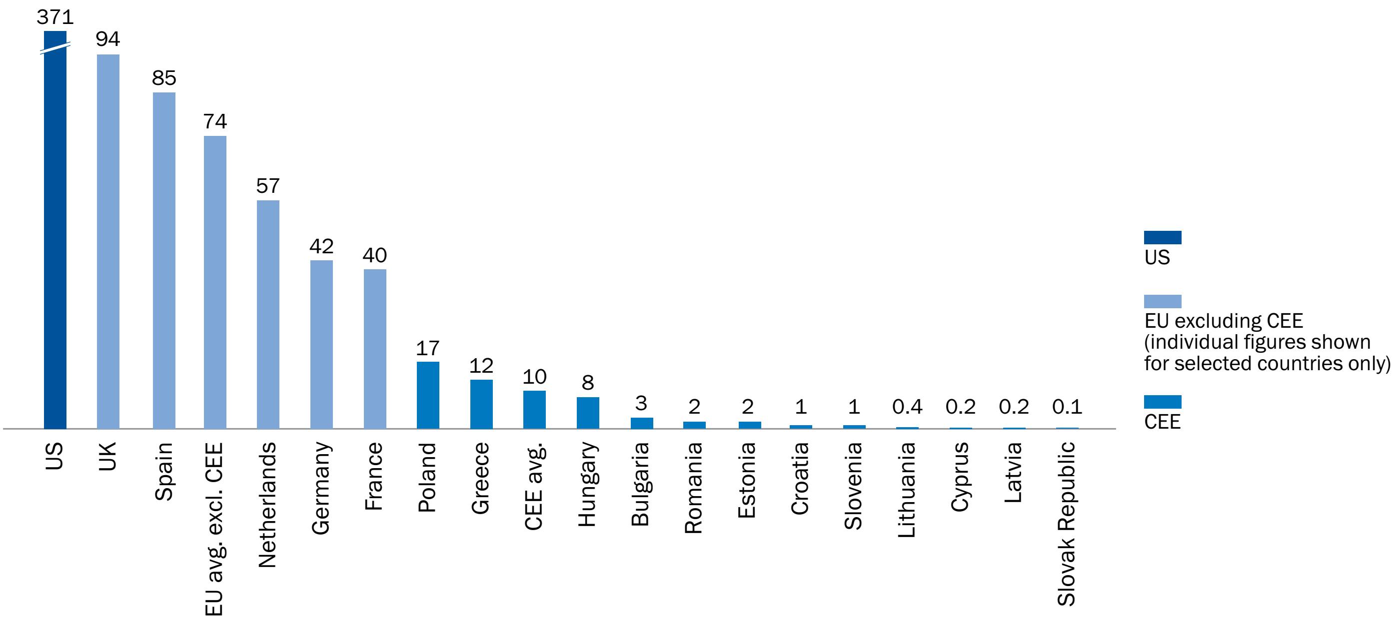
Figure 3: Evolution of European exchange-traded product volumes (number of contracts traded in billions, excludes CEE exchanges)



Source: World Federation of Exchanges

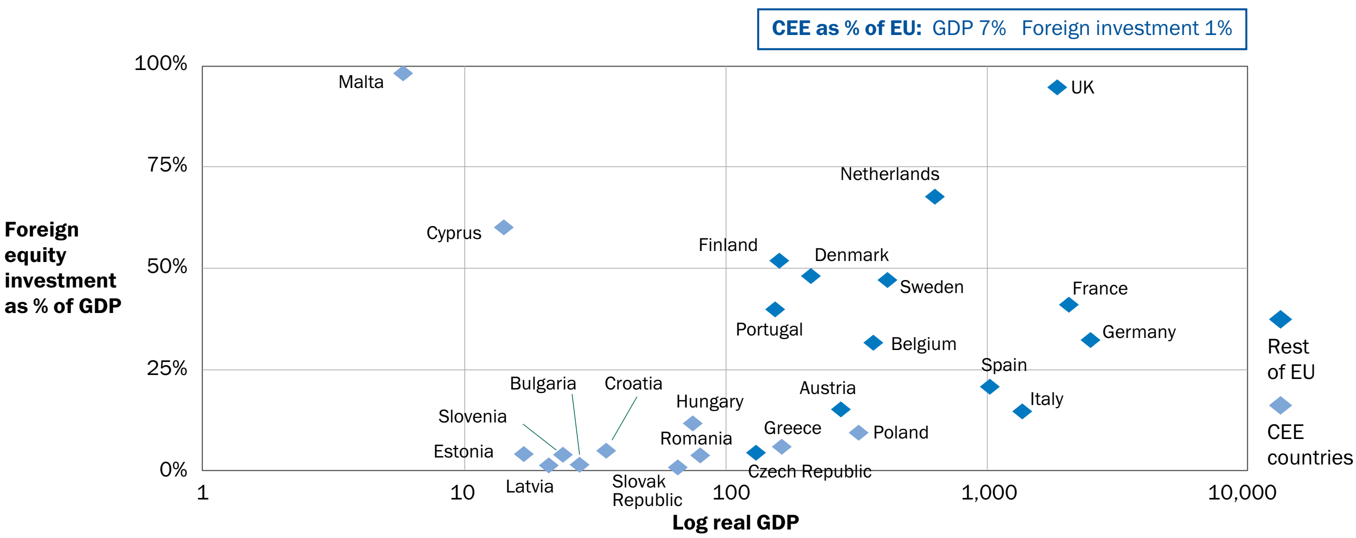
3 For the purposes of this report, we define CEE as Bulgaria, Croatia, Cyprus, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia. Austria is considered to be outside of the CEE for the purposes of this report, although CCP.A is considered as a possible option for the regional CCP.

Figure 4: Total value of equity transactions, as % of real GDP (2013 figures)



Sources: ECB, World Federation of Exchanges, European Bank for Reconstruction and Development (EBRD), World Bank

Figure 5: GDP and foreign equity investment market capitalisation in CEE and other EU countries[4,5], (2013, € billions)



4 “Foreign” refers to all countries external to the one receiving investments.
5 Not shown on graph: Ireland, Luxembourg and Lithuania, which all have foreign equity investment market capitalisation above 100 per cent of GDP.
Sources: Datastream, IMF

Development of derivative markets across the CEE region could be a medium-term opportunity for some CEE countries.

Whereas derivative contracts accounted for more than 70 per cent of transaction volumes in the EU, derivative markets are only present in a subset of CEE countries, primarily Poland, Greece and Hungary (see Figure 6), with a focus on equity derivative products. A more developed derivatives market will allow market participants to manage their exposures more easily, expand the ability to hedge risks in key sectors of the economy and improve trading volumes in CEE capital markets.

Although convergence of CEE derivatives markets with the rest of Europe will take time, there are some potential quick-wins in equity derivative products (options, futures, warrants) and asset classes with local pricing characteristics (for example, power and gas) for countries with the ambition to develop derivatives markets. In particular, improved liquidity in underlying assets and more efficient means of managing counterparty credit risks are key to the development of the derivatives market.

Figure 6: Range of CEE markets

		Cash Products		Derivatives			
Country	# of equity transactions (millions, 2013)	Equity	Bonds	Comm.	FX	IR	Equity
Poland	13.7	✓	✓	✗	✓	✓	✓
Greece	7.3	✓	✓	✓	✓	✗	✓
Hungary	1.3	✓	✓	✓	✓	✓	✓
Romania	0.6	✓	✓	✗	✗	✗	✓
Croatia	0.2	✓	✓	✗	✗	✗	✗
Bulgaria	0.1	✓	✓	✗	✗	✗	✓
Lithuania	0.1	✓	✓	✗	✗	✗	✗
Estonia	0.05	✓	✓	✗	✗	✗	✗
Slovenia	0.05	✓	✓	✗	✗	✗	✗
Cyprus	0.03	✓	✓	✗	✗	✗	✓
Latvia	0.02	✓	✓	✗	✗	✗	✗
Slovak Republic	0.01	✓	✓	✗	✗	✗	✗

Focus of offering in CEE

Source: EBRD

WHY CENTRAL CLEARING IS IMPORTANT

Central clearing is a standard feature of developed capital markets in the EU and worldwide.

In the aftermath of the 2008-09 financial crisis, central clearing has become an integral feature of developed capital markets as a mechanism for maintaining financial stability during times of market stress. Since 2010, the Financial Stability Board (FSB) has advocated an expanded role for central clearing, especially for derivative contracts that have previously traded over-the-counter (OTC) and were at the heart of the market panic in 2008 following the collapse of Lehman Brothers. Authorities worldwide (including in Europe and the USA) have implemented reforms to expand the perimeter of centrally cleared markets and increase the oversight of central counterparties (CCPs).

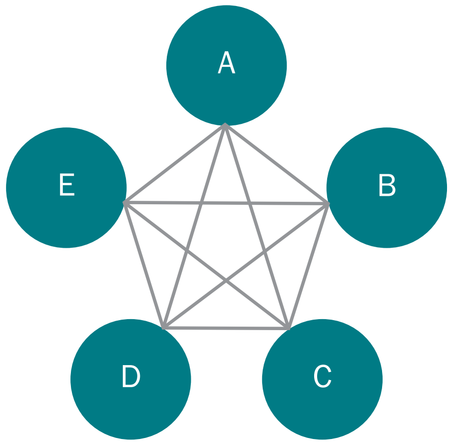
Central clearing provided by CCPs increases liquidity by reducing counterparty credit risk in the financial system.

According to the definition in EU regulation No. 648/2012, a CCP "interposes itself between the counterparties to the contracts traded on financial markets, becoming the buyer to every seller and the seller to every buyer"[6]. As illustrated in Figure 7, all counterparty credit risk is concentrated within a single entity, the CCP. Although this risk is largest in derivative markets due to future payments dependent on market movements, it also exists in cash markets due to the time lag (typically two to three days) between the trade execution and settlement. Given the concentration of risk, CCPs require strong risk management capabilities and intense regulatory oversight to ensure they can withstand financial storms.

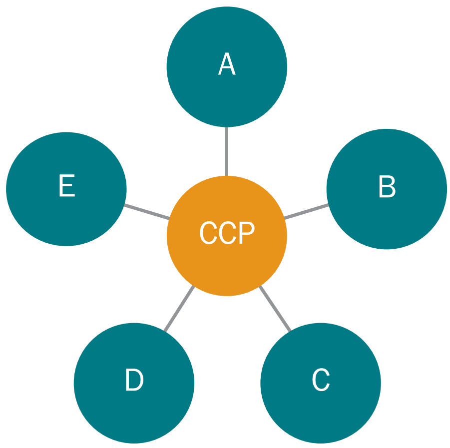
As the nexus of post-trade processing, CCPs are highly capitalised and employ a variety of measures for risk management. A key tool is the membership selection process. Best-in-class CCPs have robust admission processes and membership requirements on metrics such as capital, credit rating and default fund contribution. Other practices include building risk models that are validated and regularly backtested. In the event that one of the clearing members defaults, CCPs typically have five to six lines of defence in place to absorb losses even under severe financial stress, as shown in Figure 8. These lines of defence, including margins, default funds and capital, ensure that losses can be absorbed in an orderly and transparent fashion. Some CCPs also have access to central bank liquidity to guard against liquidity shortfalls under stress.

Figure 7: Counterparty credit exposure under bilateral clearing and central clearing

Bilateral clearing without central clearing: traders have counterparty exposure to one another



Central clearing: traders' counterparty exposure is focused on the CCP



Market participants

Central counterparty

Counterparty credit exposure

6 EU regulation No. 648/2012. Article 2.1

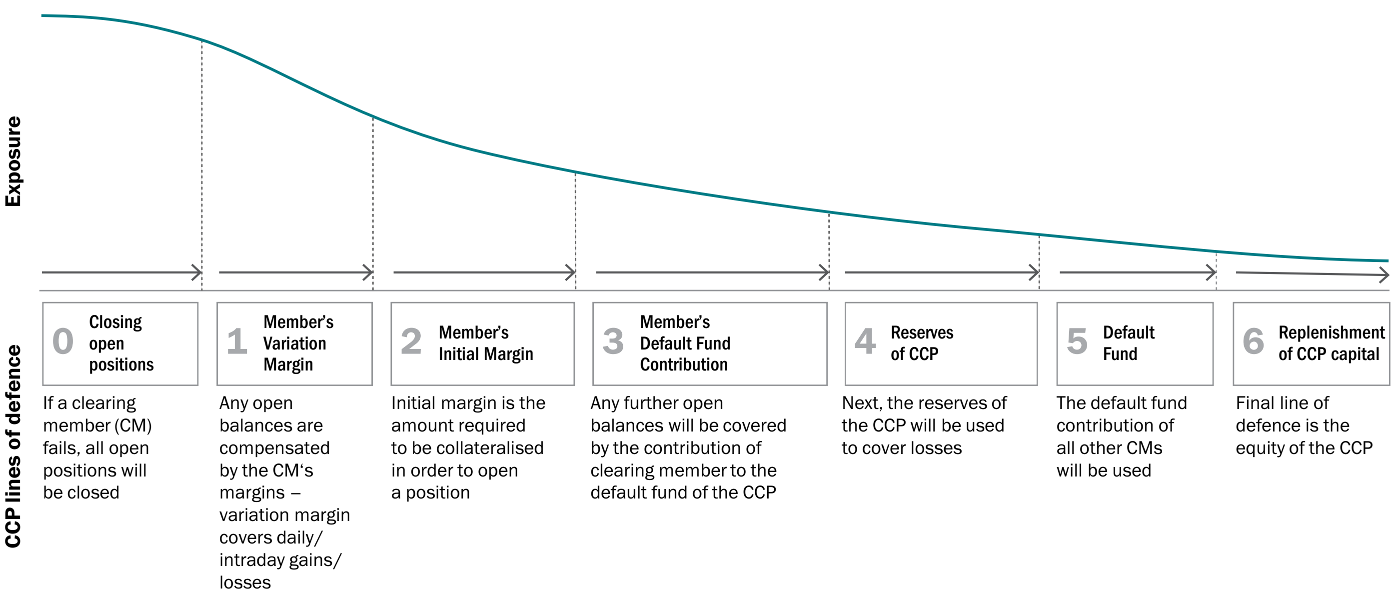
The EU has introduced a harmonised set of regulations to govern the activities and the capital and operational requirements of CCPs.

CCPs are becoming more tightly regulated. In the European Union, the EMIR was introduced in 2012 and defines a standard set of requirements for CCPs across the EU. EMIR requires all CCPs to submit applications for authorisation to supervisory authorities and to comply with an array of new capital, risk management and governance requirements described further in the table below. The requirements in EMIR are particularly onerous for smaller CCPs due to the €9.4 million minimum capital requirement for CCPs, irrespective of size/risk profile and the limited scale benefits linked to the required investment in risk management infrastructure and capabilities.

Introducing central clearing across the CEE region is a top priority to improve market resilience and to support the convergence process through alignment with EU standards.

In light of the emergence of EU-wide standards, further convergence of local CEE capital markets towards the EU norm will depend on the level of alignment of local market infrastructure. These new regulations aim to provide market participants with the necessary confidence to accept CCPs as a credible counterparty. By doing so, CCPs can reduce the risk in the financial system and increase the attractiveness of the markets to investors and, by extension, market liquidity and the number of listings. CCPs also enable additional efficiencies by requiring collateral to be posted against the net exposure instead of the gross exposure. The implementation of central clearing is therefore core to the development and medium-term stability of the local capital markets in the CEE region.

Figure 8: Illustrative clearing member default waterfall



Source: Oliver Wyman analysis

Table 2: Selected EMIR requirements

Elements	Requirement	EMIR reference[7]
CCP authorisation	Application to be reviewed and approved by a college, which consists of ESMA, the relevant central bank, the ESCB and the competent authorities of the CCP and that of the relevant trading venues, clearing members, Central Securities Depositories (CSDs). CCPs need to fulfil uniform requirements (organisational, conduct and prudential/risk). CCPs will have to apply for additional authorisation in order to expand to new products/geographies outside of their original scope of approval.	Art. 14, 18
Capital requirements	Separate capital requirements for restructuring, operational, legal, credit, market, counterparty and business risk. A CCP needs permanent and available initial capital of at least €9.4 million[8].	Art.16 RTS Art. 35
Risk management	Separate capital requirements for restructuring, operational, legal, credit, market, counterparty and business risk. A CCP needs permanent and available initial capital of at least €9.4 million.	Art. 28, 49 RTS Art. 49, 59
Stress testing	CCPs must conduct a range of stress tests on a daily basis incorporating stressed parameters, assumptions and scenarios. A CCP must have sufficient financial resources to cover the default of at least two clearing members to which it has the largest exposure. A CCP must also analyse and monitor its liquidity-risk-management framework by conducting daily stress tests on its liquid financial resources. Stress test results should be made available to clearing members and clients.	RTS Art. 51, 53, 59
Business continuity and disaster planning	CCPs are required to establish a business continuity policy and disaster recovery plan.	Art.34

7 "RTS" refers to Regulation 153/2013 unless otherwise noted.
8 Includes CCP's contributions to default fund ("skin in the game") and a minimum capital requirement of €7.5 million.

RATIONALE FOR A REGIONAL CCP

Building a regional CCP is the most cost-efficient and revenue synergistic approach to bring central clearing to capital markets in the CEE region.

To date, efforts to bring central clearing to CEE markets have focused on the creation of national CCPs. Four entities, KDPW_CCP (Poland), CCP.A (Austria), AthexCLEAR (Greece) and KELER CCP (Hungary) have successfully been granted authorisation under EMIR, while others are in active discussions with authorities at the time of writing. This is in contrast with the rest of Europe which is dominated by a small number of multinational CCPs covering markets across the region. The four CEE-based CCPs are among the smallest in Europe in terms of transaction volume, even though they represent some of the largest markets in the CEE region.

This report argues for the creation of a regional CCP on the grounds of the potential for significant synergies in terms of capital, operations and revenue that would result in a lower upfront investment from shareholders (on the order of approximately €10 million per country), increased competitiveness and higher profitability of the regional CCP. Although there are risks and challenges associated with the regional CCP, the benefits of bringing central clearing to the local markets via economically efficient means are significant.

Establishing a regional CCP will bring significant capital synergies.

The CEE countries stand to generate significant capital synergies through the creation of a regional CCP instead of building national CCPs. Capital requirements penalise smaller CCPs under EMIR, which imposes a €9.4 million minimum capital requirement for CCPs regardless of their size or risk profile. This consists of a capital requirement of €7.5 million and contributions to the default funds (so called “skin in the game”). In comparison, the regional CCP faces an approximately €1 million to €1.5 million incremental capital requirement for each new country.

Figure 9: EMIR-compliant CCPs in the CEE

		Poland KDPW CCP	Austria CCPA	Greece ATHEXCLEAR	Hungary KELER CCP
# of equity transactions (millions, 2013)		13.7	9.7	7.3	1.3
EMIR authorisation		✓	✓	✓	✓
Asset class capabilities (cash)	Equity	✓	✓	✓	✓
	Bonds	✓	✓	✓	✓
Asset class capabilities (derivatives)	Commodities	✗	✗	✓	✓
	FX	✓	✗	✓	✓
	IR	✓	✗	✗	✓
	Equity	✓	✗	✓	✓

Sources: EBRD, ESMA, as at 30 June 2015

Regional CCP could achieve significant economies of scale through more cost effective capital expenditure and operating cost synergies.

Upfront investment required to integrate a new market into a regional CCP is far lower than the cost of a new CCP gaining authorisation under EMIR. The new regulations outline a set of requirements with regards to a CCP's operating model, risk management and IT infrastructure, which could make establishing and operating national CCPs cost prohibitive for smaller markets. For instance, CCPs are required to conduct model backtests and stress tests on a daily basis. In addition, models have to be well-documented and validated annually. We estimate a new CCP in the CEE region would require a €1 million to €3 million investment to become EMIR-compliant, driven by risk management and IT. The range in values depends on the candidate CCP's initial starting point. By contrast, the cost of integrating a new market for the regional CCP is estimated at €0.1 million to €0.2 million to cover IT development, legal costs and some adjustments to processes.

In addition, each national CCP will need to hire additional staff members ranging from senior full-time employees, such as chief risk officers, as well as operational staff members for reporting, business continuity planning and so on. Depending on the current set-up of national CCPs, the increase in recurring costs could be significant. In comparison, the regional CCP can benefit from recurring cost synergies. For example, the regional CCP only needs to maintain one set of risk management capabilities, including model development and validation processes to satisfy EMIR requirements. Similarly, it only needs to sustain one clearing system set and connect to exchanges and settlement institutions once. In addition, a regional CCP can consolidate full-time equivalent (FTE) heavy functions, such as human resources and customer services.

A regional CCP can support increases in investment capital and market liquidity in CEE countries, by increasing the number of active clearing members.

A regional CCP will benefit from its scale through expanded clearing membership and increased market liquidity. Given the regional nature of the CCP, it will be able to attract a broader clearing membership to local markets compared to national CCPs, thus increasing clearing membership fees. In particular, a regional CCP is better placed to attract international clearing members given its scale. For instance, EMIR-compliant CCPs with scale, such as CCP.A, are able to attract more international clearing members, such as Goldman Sachs International, HSBC, Citigroup and JP Morgan, while national entities with limited scale, such as the Bulgarian clearinghouse, have a smaller number of international clearing members. By reducing counterparty credit risk, a regional CCP would also increase the attractiveness of local CEE markets to international investors, which drives up trading and listing volumes.

A regional CCP has a more compelling proposition in an increasingly competitive central clearing market than national CCPs.

A regional CCP has a broader set of clearing members and more flexibility on pricing than national CCPs. Under the Markets in Financial Instruments Directive II (MiFID II)[9], trading venues will have to grant market participants access to different clearing and settlement institutions in the EU, making the central clearing market more competitive in terms of pricing and product offerings. A regional CCP, by providing clearing services through members in multiple geographies across products, has a more compelling proposition to market participants.

9 Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU – articles 37 and 38.

There are risks and challenges to establishing a regional CCP, but they can be mitigated with careful planning and design.

While establishing a regional CCP is a cost and operationally efficient approach, the transformation of a national CCP into a regional player carries risks and challenges. Addressing them will be crucial to the regional CCP's success, given the number of stakeholders involved in building a regional CCP and the complexities with regards to IT integration.

- **Representation of stakeholders in risk and board committees:** A more complex ownership structure introduces challenges for fair representation of stakeholders in risk and board committees. In order to obtain buy-in from various stakeholders, having broad representation within these committees and avoiding significant skews in decision-making power will be essential.
- **National control over pricing and clearing membership criteria and the impact on the local broker industry:** The regional CCP would likely implement a consistent pricing structure and set of membership criteria across markets to avoid favouring one market over another. This could negatively impact the ability of smaller local brokers to become general or direct clearing members of the CCP. Where necessary, phase-in mechanisms could be considered to support local markets during this period of adjustment.
- **Communication barriers:** Regional CCP will require staff with local market and language knowledge to support the integration of the markets. This will likely require hiring local staff and tailoring IT systems to enable local language interfaces for the CCP's customers.
- **IT requirements:** Connecting the regional CCP to various settlement venues and CSDs could be a challenge, depending on the IT infrastructure in different countries. The regional CCP integration team will need to focus on IT infrastructure and tailor the implementation plan to local market idiosyncrasies.
- **Legislative differences:** A regional CCP needs to design clearing membership criteria and agreements with settlement venues and CSDs while remaining compliant with local regulations. A detailed legal review should be conducted in the planning phase to understand local legal requirements and draft requirements and agreements. This would require dedicated legal FTEs to study each of the participating markets.
- **Risk of contagion across regions:** By centralising counterparty credit risk in one entity, the regional CCP might raise concerns about risk contagion across regions (for example, risk of defaults in Country A affecting Country B). As a result, some jurisdictions might prefer to have separate default funds located in each country to minimise the mutualisation of risks across jurisdictions and markets. However, some contagion risk would remain: this is a natural by-product of the regional CCP structure.

ESTABLISHMENT OF THE REGIONAL CCP

Building the regional CCP out of an existing EMIR-compliant CCP ("Foundation CCP") would be the most pragmatic approach.

The EMIR authorisation process for new CCPs is time and resource intensive. Peer experience suggests that the entire process could take from one to two years, including the preparation for application and approval process. EMIR also has stringent requirements around capital, risk management and process documentation, which demand significant management attention and resources. In contrast, a regional CCP built on an existing EMIR-compliant CCP can leverage existing infrastructure that has already been documented and vetted by regulators. While the regional CCP will need to apply for additional EMIR approval to expand its product and geographical scope, the application process will be quicker and less costly than that of a new CCP. There are four national CCPs in the CEE that could serve as the "Foundation CCP" – KDPW_CCP (Poland), CCP.A (Austria), AthexCLEAR (Greece) and KELER CCP (Hungary) (see Figure 10). These four CCPs have the largest clearing volumes in the region by number of equity transactions cleared and are all EMIR-compliant.

Moreover, forming a regional CCP out of an existing CCP and building on its infrastructure is more cost and time efficient: the regional CCP would benefit from an existing management team, as well as ongoing operations in the markets that it clears. By contrast, building a regional CCP out of a completely new CCP would require investment in new IT and risk management infrastructure as well as new teams, leading to longer implementation timelines and heightened execution risks.

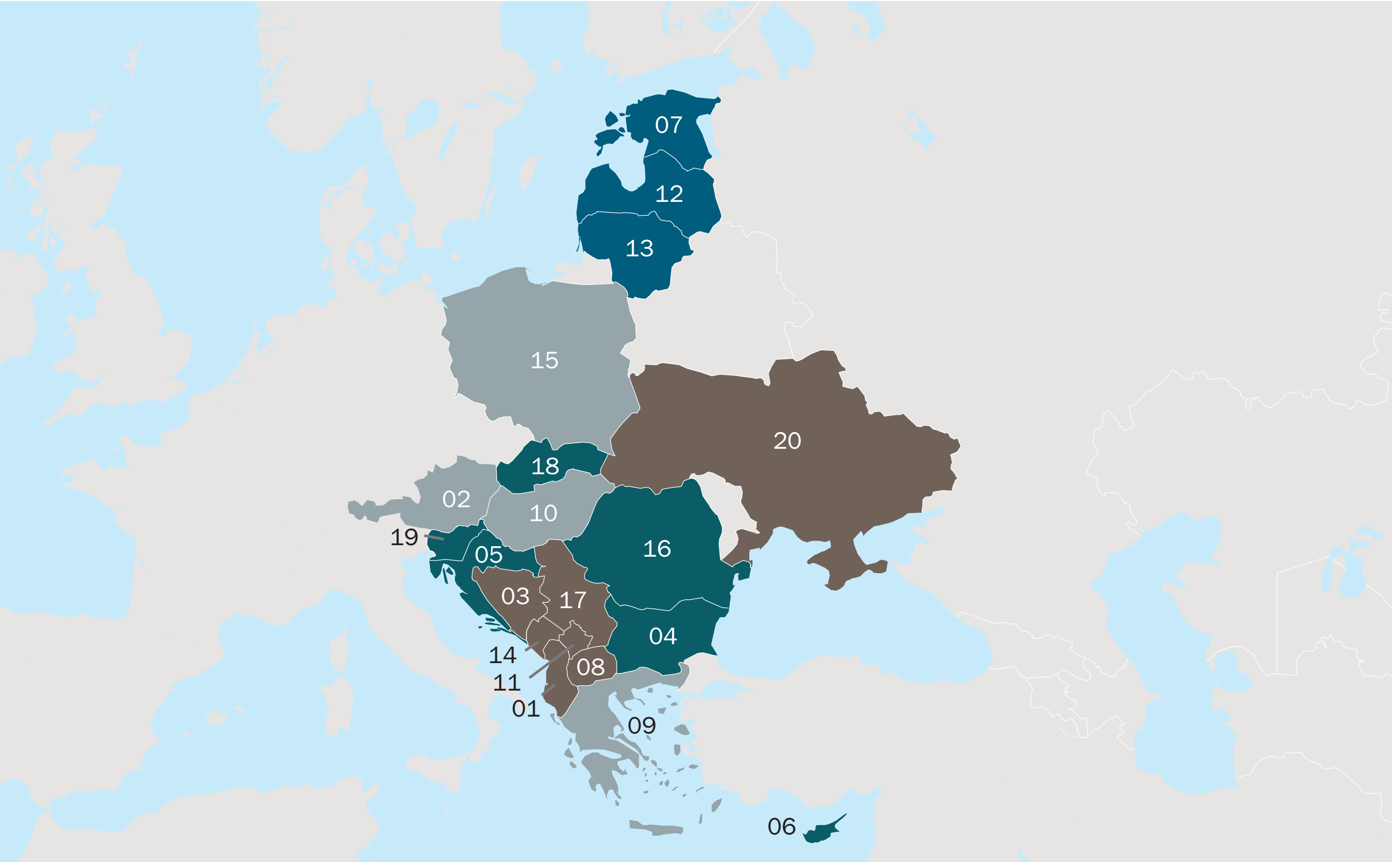
The regional CCP would focus initially on cash products across the CEE region.

Building on one of the four EMIR-compliant CCPs in the CEE, the regional CCP will focus on a subset of EU countries without EMIR-compliant CCPs (Bulgaria, Croatia, Cyprus, Romania, Slovak Republic and Slovenia) in the short term. Clearinghouses in the Baltics (Estonia, Latvia and Lithuania) are less likely to be involved, given that they are subsidiaries of Nasdaq OMX. In the future, other CEE countries that are not part of the EU (such as Ukraine, Serbia, and some countries in the Western Balkans region) could be incorporated.

The envisioned CCP will clear all products (cash and derivatives) served by the Foundation CCP in its home market[10]. As it incorporates additional countries, the CCP will take on clearing responsibility for the newly-added jurisdiction. Product coverage is expected to include cash markets and derivatives markets, where relevant.

10 CCP.A, one of the Foundation CCPs considered, is currently not allowed to clear derivatives under its EMIR authorisation.

Figure 10: Map of relevant countries



RELEVANT COUNTRIES

01 Albania
02 Austria
03 Bosnia and Herzegovina
04 Bulgaria
05 Croatia
06 Cyprus
07 Estonia
08 FYR Macedonia
09 Greece
10 Hungary
11 Kosovo
12 Latvia
13 Lithuania
14 Montenegro
15 Poland
16 Romania
17 Serbia
18 Slovak Republic
19 Slovenia
20 Ukraine

CEE countries with EMIR-compliant CCPs
EU countries of operation with no EMIR-compliant CCP
National clearinghouses less likely to be involved due to Nasdaq
Potential for future assimilation

The Foundation CCP's capital structure would be opened to allow local market stakeholders to become shareholders in the regional CCP.

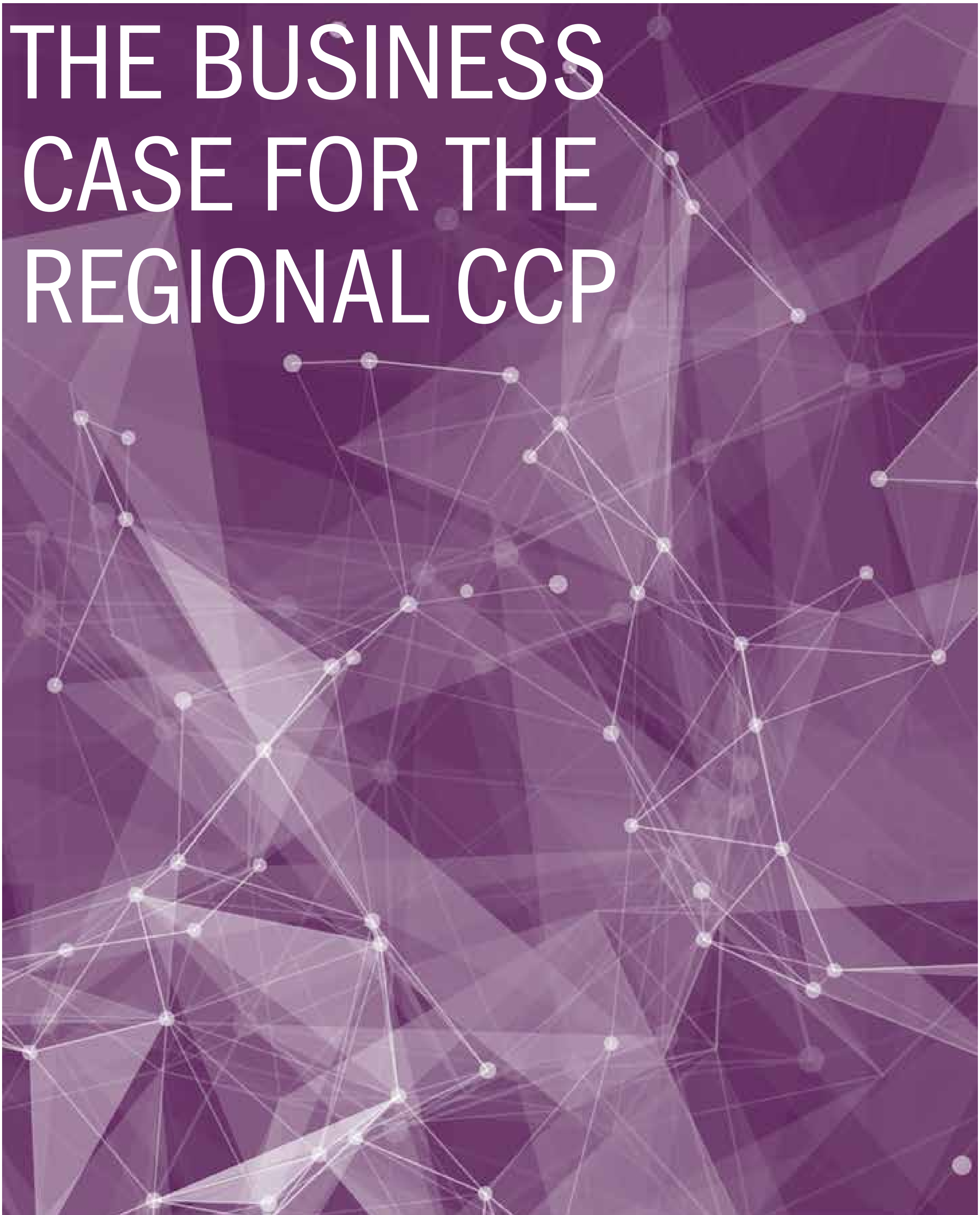
In order to gain local acceptance in the region, we expect the regional CCP to open its capital structure to enable the participation of local stakeholders. Its ownership should represent the interests of a broad set of stakeholders. Stakes in the regional CCP could be allocated based on capital keys, such as GDP and number of trades; some local stakeholders may choose not to participate in the capital structure, and prefer to outsource central clearing services to the regional CCP without having an ownership stake in the entity. However, the regional CCP needs to balance the interest of different stakeholders and avoid significant skews towards any one country.

The regional CCP should have membership criteria that enable broad participation from local market participants and maintain a harmonised operating model across borders.

To maximise financial market development for each participating country, the envisioned regional CCP would have membership criteria that provide market access to local brokers while maintaining a robust risk profile. Given that some local capital markets' participants might not be able to meet the clearing membership requirements of an international CCP, existing local clearinghouses could potentially act as clearing members for the regional CCP.

To maintain a level playing field between participating countries, the regional CCP would have a uniform operating model across borders, offering services under uniform clearing membership criteria, pricing and comparable collateral requirements. Given the diversity in local market practices currently, the regional CCP would need to phase in its operating model gradually.

THE BUSINESS CASE FOR THE REGIONAL CCP



Baseline assumptions assume a moderate level of growth in transaction volumes and economies-of-scale benefits in the cost structure.

The business case assumes that new markets are incorporated over three years. As discussed in Section 4, the new markets include Bulgaria, Croatia, Cyprus, Romania, Slovak Republic and Slovenia.

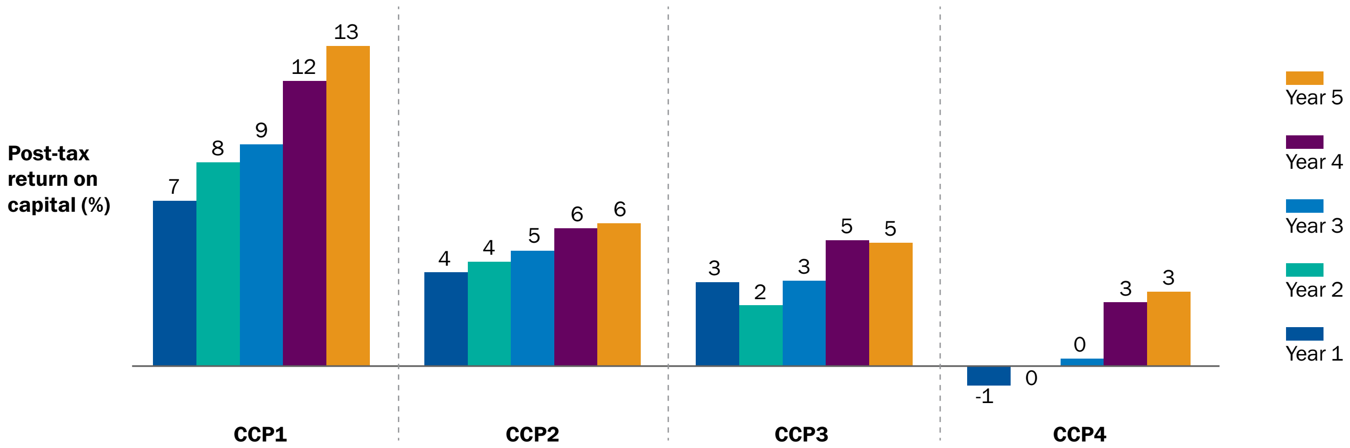
The regional CCP has three main sources of revenue: cash clearing, clearing membership fees and derivatives clearing. Growth in cash clearing is primarily driven by increased transaction volumes, with clearing fees per transaction held constant. Transaction volume growth is driven primarily by the incorporation of cash product clearing volumes of new countries served. In addition, clearing volume growth of 5 per cent per year is incorporated to take into account the growth of the underlying economy. For clearing membership fees, the number of clearing members increases with each new country served. The increase is estimated by scaling the number of clearing members in the Foundation CCP's home country by the target country's GDP and equity transaction volume. Clearing fees per member are held constant across borders, assuming a harmonised operating model. Lastly, since the regional CCP will focus on cash-clearing activities in new countries, growth in derivatives-clearing volume is assumed to be modest, at 1 per cent in year three, rising steadily to 3 per cent in year five, with no accompanying change in pricing.

The regional CCP's cost structure is driven by two components: one-time integration costs and operating costs. One-time integration costs take into account the expansion of the regional CCP's IT/risk management capabilities in each new country served and connections to new trading venues. Based on peer experience, this is assumed to range from €50,000 to €200,000 per country. Operating costs are also assumed to increase with the volume of cleared cash transactions. To take into account operating synergies stemming from the regional CCP's scale, a "cost synergy factor" is applied. The factor is assumed to be 0.75 for years one to two, falling to 0.7 for years three to five.

Business case analysis implies the regional CCP would be profitable over the medium term, under the baseline scenario.

Our "outside in analysis" suggests that all four CCPs will be economically sustainable by year five of the phase-in period as a regional CCP, generating 3-13 per cent post-tax returns on capital (see Figure 11). We note that return on equity figures for some CCPs could be under-estimated, due to high initial levels of capitalisation.

Figure 11: Projected post-tax return on capital for the four potential Foundation CCPs (anonymised)



Source: Oliver Wyman analysis

CONCLUSION

Central clearing is essential for realising the full economic potential of CEE countries through capital market development.

CEE capital markets currently lag behind that of the rest of Europe and the USA in terms of product range, trading volume and amount of foreign investment received. By introducing central clearing aligned to EU standards, policymakers can reduce systemic counterparty credit risk. In turn, this should accelerate financial market development by increasing trading volume, product diversity and liquidity.

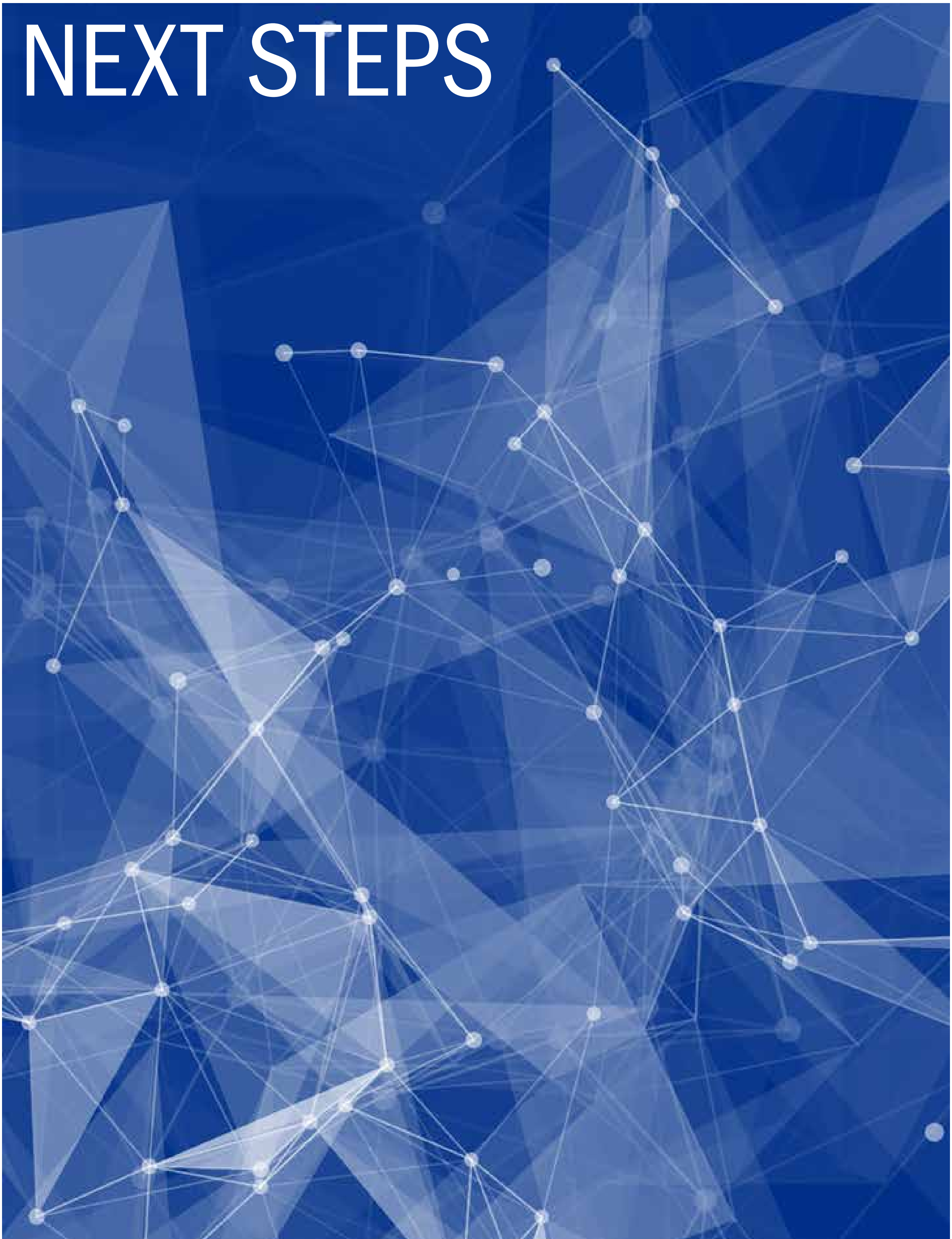
A regional CCP can be the cornerstone of a market infrastructure in the CEE region that is aligned to EU standards and drives a significant expansion in investable capital, market liquidity and number of listings in the local markets.

Moreover, the regional CCP would reduce the required upfront investment by approximately 90 per cent, due to lower capital requirements and infrastructure synergies; in addition, the regional CCP would benefit from economies of scale in its recurring cost base. Our business case suggests that the regional CCP will be a profitable standalone venture by year five of its operation, generating returns on capital in a range of 3 per cent to 13 per cent. There are challenges with regards to the implementation of a regional CCP, fair representation in committees and segregation of geography/product-specific risks. However, these could be addressed by careful planning and transparent communication.

We believe a regional CCP will bring benefits to all stakeholders.

Participating countries could improve local businesses' access to debt and equity market while reducing systemic risk in their financial markets. For stock exchanges and CSDs, increased trading volume encouraged by the regional CCP will improve market liquidity, increase listing volumes and accelerate product innovation. Local brokers will benefit from growth in customer base and trading volumes, while existing clearinghouses could potentially become clearing members for the regional CCP. International investors will also find CEE markets more attractive due to reduced counterparty credit risk.

NEXT STEPS



Although the regional CCP will develop and expand over time, we believe that the large economic prize in terms of higher growth means that the time to act is now. At the same time, the process of converging towards a solution for central clearing needs to be country and market-driven.

First, efforts should focus on the country-level policy dialogues to support convergence towards a decision on the proposed way forward. In particular, local country stakeholders should answer the following questions:

- Do the local markets need central clearing?
- If so, should these clearing services be sourced from a national or a regional CCP?

Second, a selection process should be launched by local country stakeholders to select the CCP to act as the regional CCP. The process should be structured in a way that local country stakeholders are supplied with sufficient information and analysis to come to a fact-based decision on the optimal option.

Third, the chosen CCP should conduct a detailed blueprinting exercise for the regional CCP. As highlighted throughout the report, the success of this initiative will lie in the quality of implementation. The blueprint should address the following themes:

- **Product and geographical coverage:** This workstream will finalise the scope of countries and products to be covered. It will also obtain binding commitments from stakeholders in each country.
- **Ownership structure and capital:** The regional CCP will need to converge on target capital/ownership structure and finalise its governance structure. This includes determining stakeholder representation in the board and committees (risk, pricing, clearing membership).
- **Legal and regulatory requirements:** To understand local requirements, a country-by-country analysis is needed to guide efforts to draft customised clearing membership criteria and agreements with settlement venues and CSDs. In addition, the analysis will prepare the documentation for the college of supervisors for the extension of activities into new products and geographies.
- **Business planning:** This workstream will be responsible for formalising its pricing strategy, membership criteria and collateral standards. This will allow management to update its medium-term financial projections and identify the amount of capital that each stakeholder needs to contribute to the regional CCP.
- **Target operating model:** This workstream will design the target-operating model for key functions, such as clearing operations and risk management. This entails outlining resource plans, adjustments to key processes and infrastructure upgrades. In addition, this workstream will prepare step-by-step implementation plans for the integration of each new market. Given that the importance of IT integration in the implementation phase, the work stream will need to develop a detailed understanding of the existing IT infrastructure in participating countries and map out the requirements for connecting the regional CCP with each settlement venue and CSD.
- **Rollout plan:** To help the Foundation CCP communicate its transition to a regional entity, this workstream will define the implementation strategy and sequencing of activities, including the timeline for entering new markets. The organisation and governance structures of the change programme will also be defined.

It is estimated that the implementation phase will take between 6-12 months for the integration of each new market, accounting for regulatory approvals by the College of Supervisors, IT connections and any infrastructure upgrade. We also expect that the boundaries of the regional CCP will continue to evolve over time, as new markets are formed within existing countries and new countries from within the EU and beyond decide to join the regional CCP.

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KEY DEFINITIONS

Common terminology used in this report

Clearing

All activities from the time participants agree to a trade until it is settled

It can involve monitoring capital requirements, margining, netting of trades, and default management

CCP

A central counterparty (CCP) interposes itself between counterparties to contracts traded in financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the performance of open contracts

Clearing house

A clearing house is an institution that provides clearing services for securities and/or derivatives transactions

A clearing house may or may not be a non-EMIR compliant CCP

CSD

A Central Security Depository (CSD) is an institution that holds securities for a third party either in certificated or dematerialised form

A CSD can also perform transaction processing, including settlement and clearing

EMIR

European Market Infrastructure Regulation (EMIR) is an EU-wide regulation that defines a set of requirements for market infrastructure providers including CCPs to ensure their resilience

EMIR also defines a framework for the supervision of market infrastructure providers, including EU cross-border coordination

Novation

Novation discharges the original contract between a buyer and a seller and two new contracts are created

The seller sells the securities to the CCP in exchange for payment

The CCP sells the securities to the buyer in exchange for payment

About EBRD's Local Currency and Capital Markets Development

Local Currency and Capital Markets Development (LC2) is one of the key strategic initiatives of the EBRD. The objective is to support the EBRD's countries of operations to build deeper and more resilient local financial markets. The LC2 activities include analytical and advisory work, organisation and implementation of capacity-building and knowledge sharing activities, as well as technical support to investments and capital market transactions which can catalyse the capital market development process.

The dedicated LC2 team, established in December 2012, is tasked with identifying and supporting sequenced reforms and policies that contribute to the development of efficient and self-sustaining local capital markets, including the increased use of local currency.

About Oliver Wyman

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