DEUTSCHE BÖRSE GROUP

Policy Paper

EU financial markets are better than perceived

Stay on track to reap the fruits out of the hard work

Ten years after the financial crisis: the EU has consequently implemented global standards

The global financial crisis demonstrated the crucial need for regulation. Therefore, lead politicians around the globe confirmed that the taxpayers should not pay for a next crisis. In 2009, the Group of Twenty (G20) agreed on ambitious measures and on a fast and coordinated implementation.[1] They "elevated the necessity of the discussion on the highest political level and kept international attention focused on establishing a stronger set of globally consistent rules".[2] Moreover, they identified four core areas displayed in Figure 1. In essence, they address banks' capital and liquidity buffers (e.g. Basel III standards), aim at ending "too big to fail" by implementing loss absorbency standards, focus on the transformation of shadow banking into resilient market-based finance and have the goal to make derivatives markets safer.

1. Building resilient financial institutions	EU's answer
▪ Timely implementation of **Basel III capital and liquidity standards** ▪ Banks continue to build higher and better quality **capital and liquidity buffers**. ▪ More work needed to implement **other Basel III standards**, while some advanced economies' rules are **not fully consistent with the Basel framework**	▪ ESA ▪ Banking Union ▪ SSM + SRB ▪ CRD

2. Ending "too big to fail"	EU's answer
▪ Implementation of **higher loss absorbency** (Total Loss-Absorbing Capacity, TLAC) and more intensive supervision is **advancing well for G-SIBs** ▪ Slower progress on other **resolution reforms** over the past year ▪ Substantial work to **build effective resolution regimes and operationalise resolution** plans for cross-border firms	▪ Banking Union ▪ SSM + SRB ▪ CRD

3. Transforming shadow banking into resilient market-based finance	EU's answer
▪ Reforms on **oversight and regulation of shadow banking entities**, including money market funds, securities financing transactions and securitisation ▪ Implementation is progressing but remains at a **relatively early stage**.	▪ ESRB ▪ AIFMD / UCITS V

4. Making derivatives markets safer	EU's answer
▪ **Implementation well progressed** and most advanced for **trade reporting**, but significant **challenges** remain for its **effective use** ▪ Central **clearing frameworks** as well as margin and interim capital **requirements** have been **implemented** in most FSB jurisdictions. ▪ **Frameworks** for trading platforms have been **implemented in half of FSB jurisdictions**.	▪ MiFID ▪ EMIR ▪ Recovery & Resolution ▪ CRD

Figure 1: G20 measures, status and EU implementation

[1] University of Toronto (2009). G20 Leaders Statement: the Pittsburgh Summit.
[2] IMF (2018). Global Financial Stability Report, p. 56.

Overall, exchanges and central counterparties (CCPs) proved their robustness and played a crucial role for stability in financial markets during the global financial crisis by decreasing uncollateralised counterparty exposures across the financial system.[3] For instance, exchange-traded markets functioned smoothly in times of stress compared to over-the-counter (OTC) markets that completely dried out due to a lack of trust in this system. In exchange infrastructures, even the default of significant market participants like Lehman Brothers caused no loss to other participants, as enough prefunded sources were available. Regulators have therefore put them at the heart of financial markets regulation, giving exchanges and CCPs an essential role to play in creating safer, more transparent and stable financial markets. [4]

Ten years after the global financial crisis, the Financial Stability Board (FSB) concludes that implementation progress continues but is uneven across these reform areas. Furthermore, the FSB assesses that the evidence on the effectiveness of these reforms to date shows that higher resilience is being achieved without impeding the supply of credit to the economy.[5] Already in 2017, the FSB confirmed that the EU has consequently implemented the G20 measures.[6] However, this is merely a confirmation of the legal implementation of the respective global standards. This qualitative assessment does not provide information on the status of the implementation of the measures nor does it quantify the respective effects.

Against perception, US GDP figures indicate continuous growth

Figure 2 shows how the economies have been impacted by the turmoil on global financial markets.

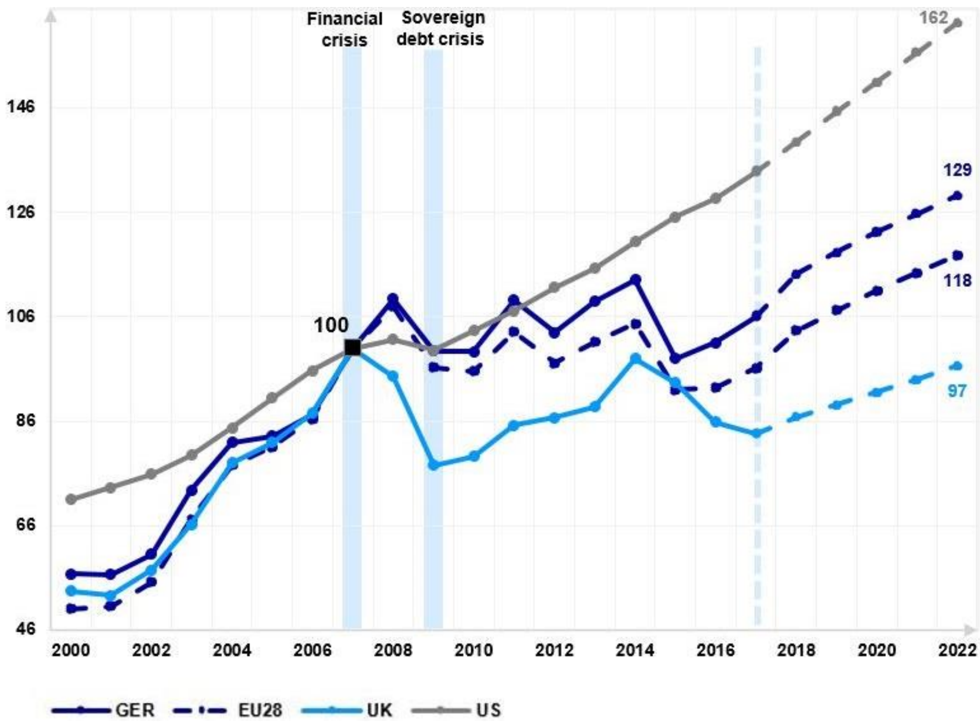

Figure 2: GDP, current prices in US$ billion (indexed 2007=100)[7]

[3] IMF (2018). Global Financial Stability Report, p. 69.
[4] University of Toronto (2009). G20 Leaders Statement: the Pittsburgh Summit.
[5] FSB (2018). Implementation Report.
[6] FSB (2017). OTC Derivatives Market Reforms: Twelfth Progress Report on Implementation.
[7] IMF. Database.

From gross domestic product (GDP) growth rates we could deduct that the US has recovered much faster from the global financial crisis than the other analysed countries. GDP has significantly increased since 2007. Neither the EU or Germany nor the UK can keep up with this impressive performance: since 2007, the EU and Germany experienced a volatile horizontal GDP evolution, which only in 2015 turned into a continuous output growth. The fact that the economic negative impact has not been as strong as in the UK, could be attributed to the well-diversified real economies in the EU and Germany, which provided significant economic buffer to absorb economic shocks stemming from the financial markets.

In a next step we analyse determinants for stability in financial markets, which have potential impact on the overall stability and thus on the economic output of an economy.

Financial stability can only be achieved if the different measures are complementing each other

The global financial crisis disclosed substantial weaknesses in the financial system. Especially the lack of transparency and risk management in combination with conflicts of interest were main causes of instability.

Achieving financial stability is a complex task, as the sensitive interplay of various measures has to be calibrated carefully. Figure 3 illustrates the different long-term and mid-term tools to stabilise markets. Long-term measures build the framework to create a robust financial market, which is able to resist stress periods in markets. Overall, there are five main tools to achieve this goal.

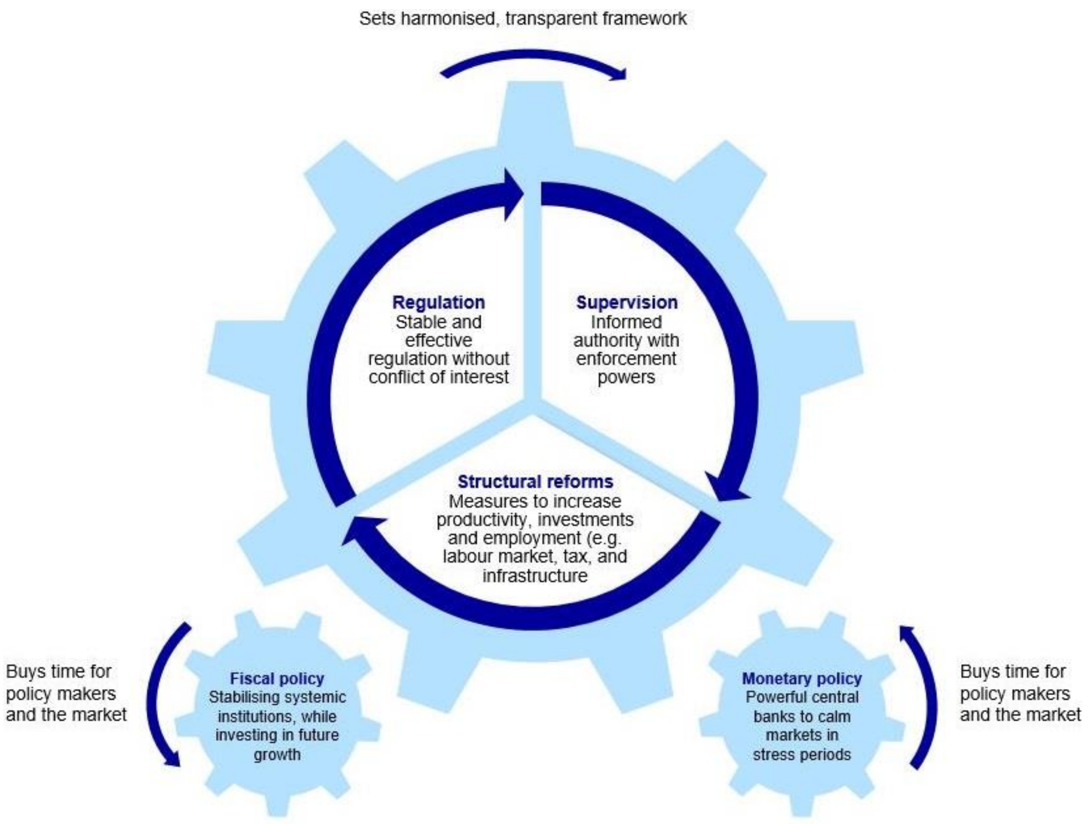

Figure 3: illustration of determinants for financial stability

Fiscal and monetary policy directly affect markets and buy time to markets and policy makers to take problem solving measures – EU's strategy is fiscally sustainable

There are two measures directly affecting markets and its participants, which help to reduce uncertainty for market participants and buy time to markets and policy makers to assess and employ appropriate measures.

The first tools are fiscal interventions reducing uncertainty by filling demand gaps and signalling stability. For instance, during the global financial crisis, US government decided to intervene and rescue American International Group as a big insurance company, due to the systemic relevance of some institutions and the potential contagion effects. An example from the German market is the bailout of Hypo Real Estate. The effects of these interventions are reflected in the data, as all analysed countries substantially increase their governmental debt to GDP ratios.[8] Figure 4 captures the evolution of the governmental debt to GDP from 2001 to 2017 with estimations until 2022. The EU-28 and Germany act in a fiscally sustainable manner, as they reduced their exposure once output was pulled back on track (both between 62 per cent and 68 per cent in 2018). In contrast, the US is still increasing debt ratio reaching levels of nearly 110% even though output is strongly growing.

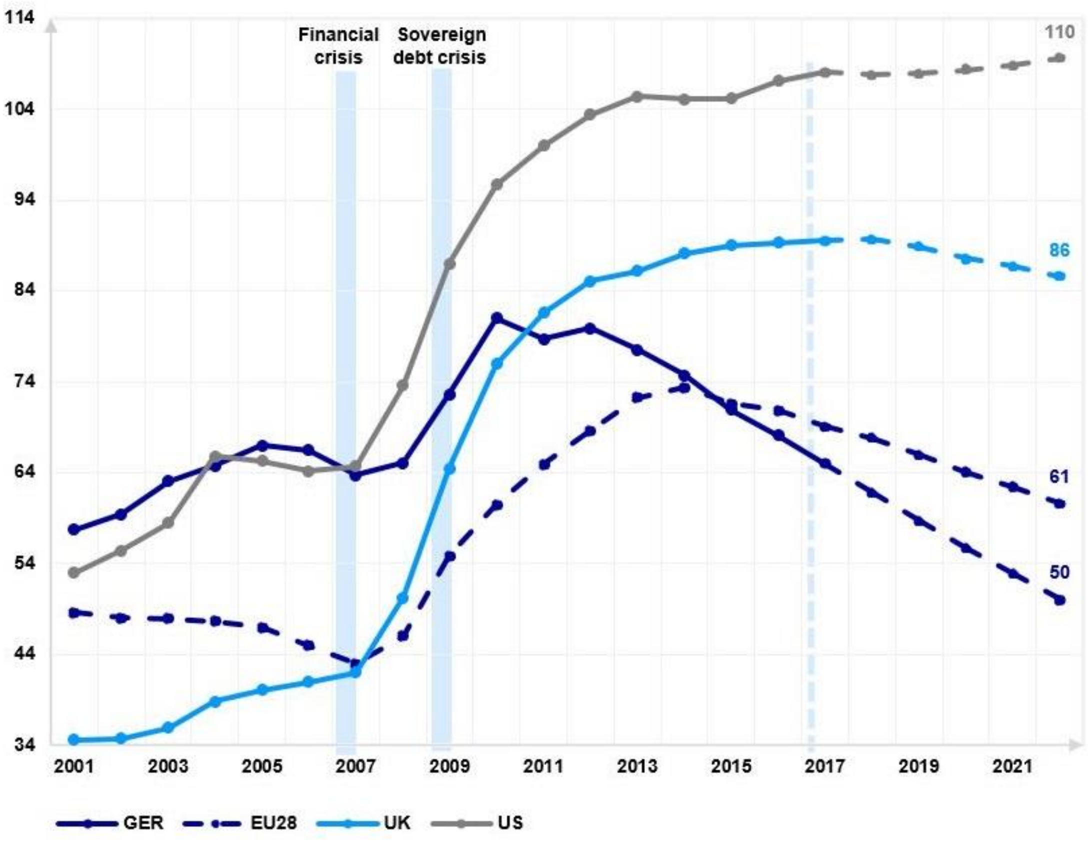

Figure 4: general governmental gross debt (in % to GDP)[9]

[8] IMF. Database.
[9] IMF. Database.

Monetary policy tool as the second short-term measure summarises all activities executed by a central bank, whose overall target is price stability. For this purpose, they have two major tools available: the variation of the key interest rate of the currency area and the expansion or restriction of the money supply. During the global financial crisis, all analysed central banks (i.e. FED, BoE and ECB) employed these measures in a similar way – even though the ECB acted with a time lag of almost two years.

However, both measures have to be used with caution as changes of market participants' expectations might lead to excessive risk taking (moral hazard). The implementation of stable, transparent, efficient and sustainable regulation, supervision and structural reforms are key to avoid these shifts in market participants' behaviour and is the only way to really address the systems' shortcomings.

Long-term measures have to set the right incentives and structures within the framework

Structural reforms capture measures to overcome inefficiencies, to increase productivity and to evolve innovation, such as labour and tax reforms or infrastructure projects. This key area is not related to the financial system alone and hence will not be analysed in detail in this paper. A common proxy to capture this effect is the "current account balance", which indicates positive effects for the EU.[10]

For the financial system, **regulation** and supervision are the most central tools. Regulation sets the framework to increase transparency and to prevent conflicts of interest. It also sets incentives for proper risk management and thus ensures stable markets even in times of stress. In addition to the risk out of OTC trading, regulation has also addressed with the Market Abuse Directive II (MAD II) and EU Benchmarks Regulation (BMR) conflicts of interests preventing manipulation as in the case of the LIBOR manipulation.

Supervision is required to ensure that regulation is enforced. The financial crisis showed that there have been shortcomings at the supervisory level, because the availability of information has been identified as a significant shortcoming. For instance, during the height of the crisis, supervisors had insufficient information about the ownership of financial instruments. Thus, they had very limited insights about the systems' potential risks. Furthermore, there were shortcomings in cross-border processes.

To capture both the effect of regulation on the different areas and the enforcement powers of the well-informed supervisors, the next two paragraphs will analyse selected proxies and hence shed light on the effectiveness of different regulations and tools addressed by G20 states, mainly banks and central infrastructures.

EU banks are less profitable, but fulfil highest risk standards and are not "too big to fail"

A study provided by EY in 2018 compares the profitability of banks in the EU and the US.[11] In 2008 and 2009, US banks realised massive losses, while in the subsequent years profitability sharply increased. At the same time, the levels in the EU remained on a relatively low level. These significant differences can mainly be attributed to diverging structures of the banking sector, as the large banks in the US face much less competition leading to higher margins and higher profitability. FED's interest rate increase since 2015 amplifies this effect. In comparison, the high amount of players within the EU banking sector, which are in strong competition with each other, lowers margins and profitability.

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[10] Gutiérrez and Philippon (2018). How EU Markets Become More Competitive Than US Markets: A Study of Institutional Drift.
[11] EY (2018). Banken in Europa und den USA im Vergleich: Eine Analyse wichtiger Bilanzkennzahlen.

However, profitability is only one side of the coin: in the context of the G20 stability agenda, also the reflection of banks' risks in their balance sheets is key. To capture different dimensions in this regard, the International Monetary Fund (IMF) has set up the so-called "Financial Soundness Indicators", aiming at quantifying the robustness and stability of a country's banking sector. One of the proxies who focusses on the discussed risk dimension is the bank regulatory capital to risk-weighted assets (see Figure 5).

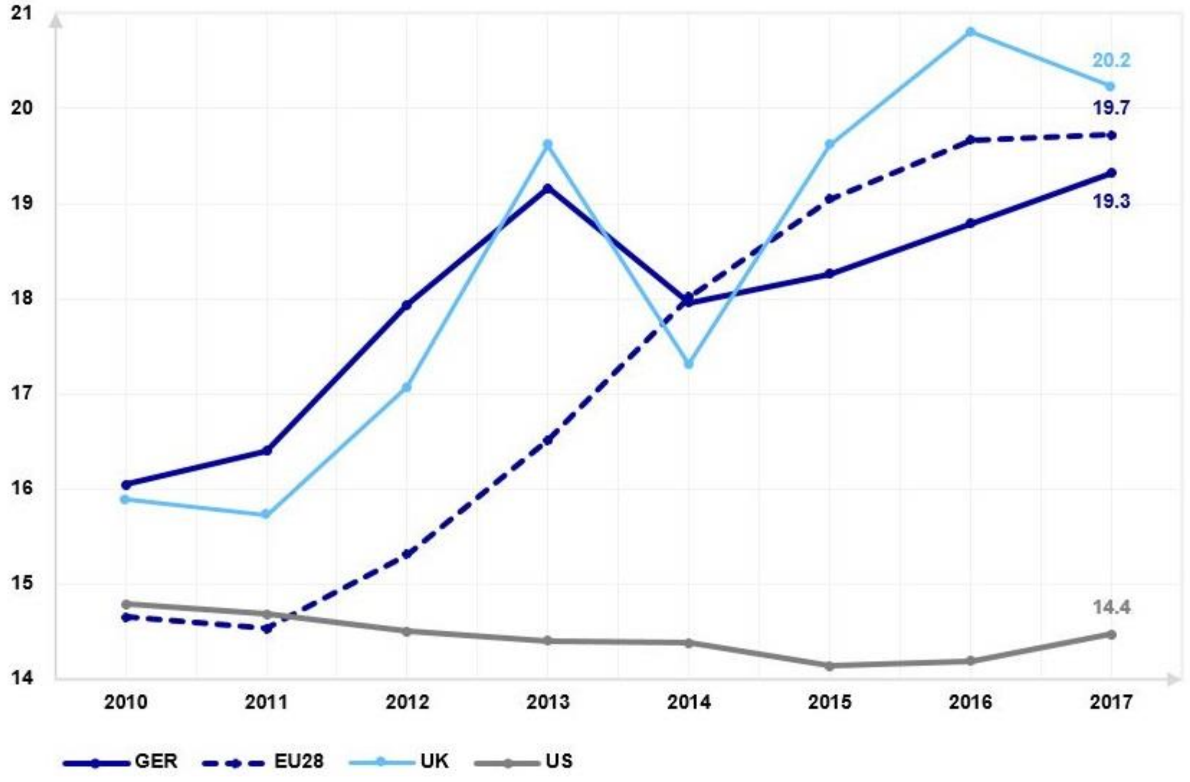

Figure 5: bank regulatory capital to risk-weighted assets[12]

Higher ratios indicate higher levels of robustness towards systemic shocks. Starting in 2010, the ratio in the EU, Germany and the UK increased substantially from around 14 per cent and 16 per cent to around 20 per cent. Putting this into the context of the respective sizes of the financial institutions, makes things even worse: the bank with the highest market capitalisation is JP Morgan Chase (US) with US$364 billion. In the list of the top 10, HSBC Holdings with US$194 billion is the only EU bank.[13] Combining the profitability measures with the capital to risk-weighted assets and the sizes of the financial institutions, might question the success of the G20's target to end "too big to fail".

[12] IMF. Database.

[13] Statista (2018). Größte Banken weltweit nach Börsenwert.

EU regulation has improved markets and enabled supervisors with enforcement powers – both proved their stability under stress conditions

Figure 6 displays that more derivatives are cleared via CCPs. The amount has doubled in the past ten years – in the EU as well as globally. This, in combination with the extended powers of supervisors (see next section), increases transparency, reduces risk and improves supervision.

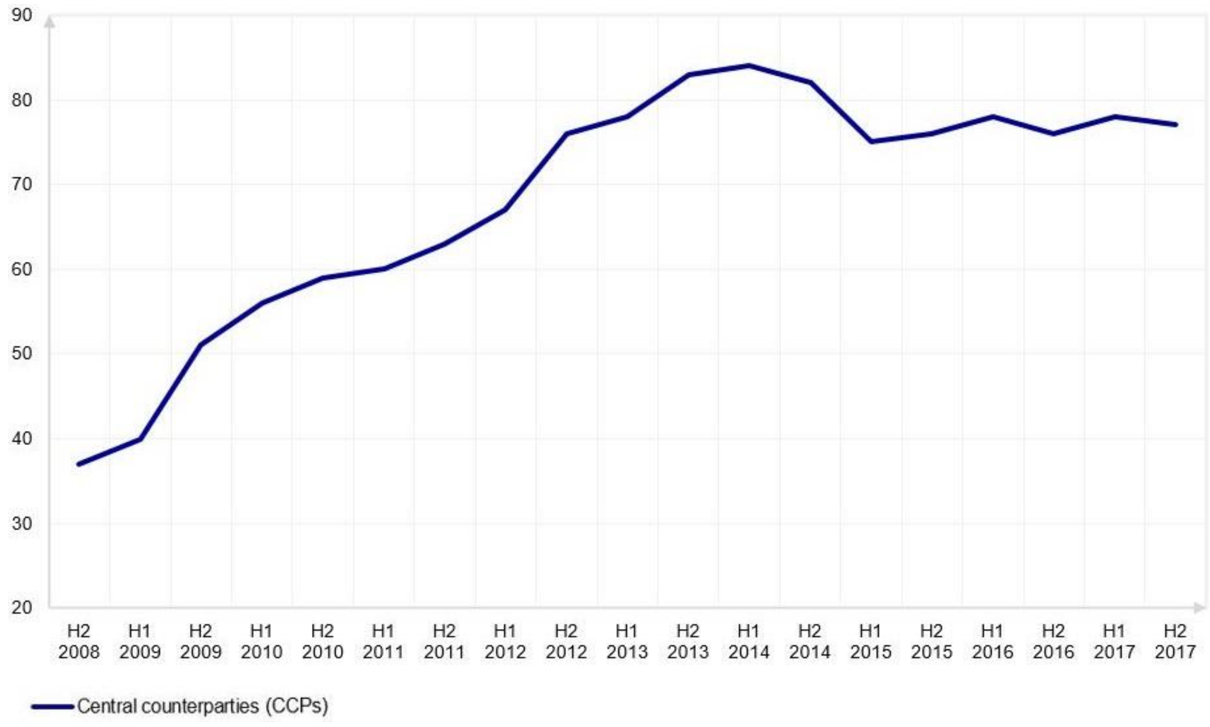

Figure 6: interest rate derivatives – global notional amount outstanding (in %)[14]

To assess both CCPs' resilience in stressed market conditions and the interplay of the different market participants, ESMA conducted two CCP stress tests (in February 2017 and March 2018) by simulating the default of the top two groups of clearing members for each CCP. The German CCP Eurex Clearing AG has passed both tests successfully.

Besides theoretical stress tests, the "Brexit day" could be seen as kind of a real stress test, where European safeguards proved evidence as all measures functioned well. The shock of the Brexit decision sparked an outpouring of selling and buying leading to a record on the stock market on 24 June 2016. In addition to a volume record, markets experienced significant volatility peaks. In the German market, the order book turnover nearly tripled.[15] EU authorities monitored markets very closely and assessed the option leaving markets closed the morning after the Brexit decision. Instead, they decided to regularly open markets and hence strongly signalled trust in the implemented measures and processes. In the German market, volatility interruptions (switch from continuous trading to the auction model in the light of excessive price variations)

[14] FSB (2018). Incentives to centrally clear over-the-counter (OTC) derivatives, p. 16.
[15] Deutsche Börse AG. Values for 23 and 24 June 2016: Xetra® order book turnover increased from €6 billion to €16 billion, while the Frankfurter Wertpapierbörse (FWB®) order book turnover increased from around €193 billion to €554 billion.

complemented with the subsequent systems like CCPs, underlined the well-functioning markets and ensured continuity of trading. For instance, the German CCP Eurex Clearing AG together with its clearing members and trading participants, who fulfilled all their intraday margin calls, quickly responded to the changed market conditions.

Stay on track to reap the fruits of the hard work done

Over the last ten years, the EU has consequently implemented the G20 agenda. Analysed indicators prove that transparency and stability is already significantly improving – even though some dossiers have only recently become effective or are still about to completely enter into force (Figure 7). Against the background of the unprecedented political uncertainty due to Brexit and calls for deregulation, the EU financial regulation agenda needs to be finalised to benefit from their long-term effects. Furthermore, it has to be discussed within multilateral frameworks, as unilateral decisions will lead to regulatory arbitrage.

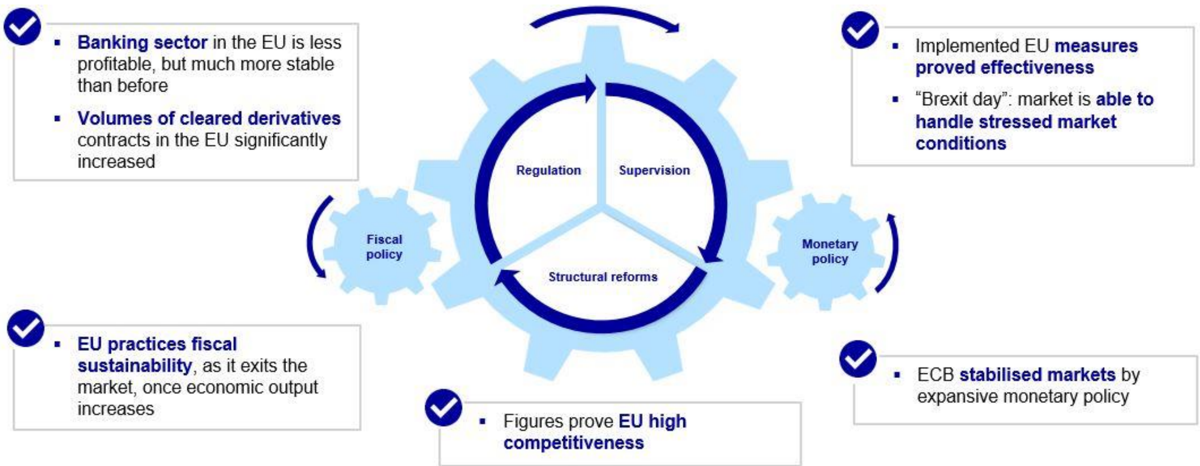

Figure 7: EU financial markets are more stable due to regulation and supervision

Past crises have left their mark on the regulatory agenda in the form of enhancing the safety, stability and transparency of financial markets. Now we need to integrate the goals of efficiency, growth and competitiveness into this post-crisis agenda in order to build the financial market of the future. In the next years, it will be crucial for the EU to strengthen the continental European confidence, and to combine this with the mind-set needed to remain globally competitive and to create growth and jobs based on financial stability and integrity.

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