

Journal of  
**Economics and Political Economy**

www.kspjournals.org

Volume 7

December 2020

Issue 4

**From optimism to pessimism: The stability of the  
Euro FX market in the short and long run**

*By* **Bachar FAKHRY** <sup>†</sup>

**Abstract.** We review the EU's actions over the euro's lifetime; since its introduction thru to the populist uprising of the late 2010s. The euro was introduced on a wave of optimism throughout the EU, although based on a compromised monetary agreement. Essentially, underlining the crisis and movement from optimism to pessimism in the EU integration road. Thus, it is hard to analyse the euro without reviewing the theories influencing this road. Furthermore, we analyse the long and short-run market stability of the euro FX market using the variance bound model of (Fakhry & Richter, 2018). However, it is difficult to explain the market analysis without referencing behavioural finance. Thus we use key elements of behavioural finance, such as the opposite scale behaviours of greed and fear, to fully explain the timeline analysis of the euro FX market stability in both the long and short runs. At first glance, the result was unexpected due to the critical factor that the market was significantly volatile in the long run; despite conventional wisdom dictating that in the long-run, the financial markets are generally stable. One possible explanation is that the market participants are fearful of the long-run future of the Euro.

**Keywords.** Behavioural Finance, EU Integration, Euro, Euro Crises, Long/Short Run, Market Stability.

**JEL.** C58, D81, G01, G02, H77.

## **1. Introduction**

**A**s argued by (Schmitter, 2005), at the heart of the further and deeper integration of Europe lays a strong ideology which is to prevent conflicts between the major European countries, there is a need for a deep integration. The introduction of the euro and EMU in 1999 was regarded as a necessary step on this road, integrating the economies and financial markets under one currency and monetary policy. Conversely, on 1<sup>st</sup> January 1999, the euro was first introduced into 11 countries, and as we will see in the next section, it was greeted with extreme optimism by many economists and academics. However, recent developments have caused a rise in the popularity of populist nationalism political movements, especially in the aftermath of the crises and economic downturns. Mainly due to the loss of a "national identity" and "economic constraints". So, the key questions are: how did we go from optimism to pessimism in two decades? Additionally, what is the impact on the stability of the Euro FX market?

<sup>†</sup>University of Lahore, School of Accountancy & Finance, Lahore, Pakistan.

☎. +44 7515 909 633 ✉. mbachar.fakhry@me.com

## Journal of Economics and Political Economy

In this paper, we analyse the stability of the Euro FX Market in the short and long run to capture the impact of this movement from optimism to pessimism. We use the variance bound test of (Fakhry & Richter, 2018) to analyse the long and short-run stability of the Euro FX market from its introduction till 31<sup>st</sup> December 2019. We subdivide the observations according to three different periods of impact: the introductory, crises and populist movement.

Our essential contribution to the literature on European integration is in our research and analysis of the long and short-run stability of the Euro FX market over three sub-periods. The sub-periods correspond to different episodes in the Euro timescale as the mood changes from optimism to pessimism. We follow (Fakhry & Richter, 2018) in using the C-GARCH model of (Engle & Lee, 1999) to model our variance bound test and analyse the volatility pattern. Furthermore, we combine behavioural and EU theories in explaining the movement from optimism to pessimism.

Our findings seem to be hinting at a critical requirement of two fundamental theories to explain the timeframe of the euro: behavioural finance and EU integration. It is only by combining these two theories that one begins to capture the impact of the three main episodes in the timeframe of the euro on the FX market, and hence the market participants. Damningly, our analysis hint at long-run concerns based on underlying policy issues in the European integration. Moreover, the problems were known, since the interception of the EMU. Conversely, our test of the stability of the Euro FX market in the short and long runs illustrates that as the market moves from one episode to the next, the market become increasingly volatile in the long run. This movement seems to be correlating with the trends from optimism towards pessimism on the EMU and EU integration. A possible explanation is that market participants are increasingly fearful of the long term life of the euro.

The structure of the paper follows the usual format in that the next section is the literature review. The following chapter is the methodology and data description. The last two parts are the empirical evidence and conclusion.

### 2. Literature review

A critical factor in the European integration process, as highlighted previously, is the elimination of the threat of war. As argued by (Rosamond, 2005), both (Haas, 1958) and (Hoffmann, 1966) extended the ideology of David Mitrany that international cooperation is the best way of preventing conflicts amongst different nation-states. It was this fear of another war and the underlying thinking of David Mitrany that were the driving forces behind what would eventually become the European Union. Furthermore, as stated by (Bekaert *et al.*, 2013), from its inception in 1957, the EU has promoted the free movements of goods, services, capital and people.

## Journal of Economics and Political Economy

Furthermore, the goal of the EU has always been complete economics and financial integration among its members. Conversely, as outlined by (Genschel & Jachtenfuchs, 2018), since the mid-1950s, EU policy has been market integration, which does not require political function integration. However, with the increasing market integration activities in the 1990s; there was added functional spillover pressures into monetary/fiscal policies. Moreover, as suggested by (Genschel & Jachtenfuchs, 2018), the member states refused to have these fundamental core state powers integrated under the European Union. Hence the European Union opted to regulation integration and horizontal differentiation. Furthermore, as argued by (Gali & Perotti, 2003), fiscal integration was regarded by many as an unnecessary and harmful “straitjacket” on national fiscal policies. Conversely, the EMU policies of monetary integration came into EU regulations with the Maastricht Treaty of 1992.

The Maastricht Treaty did not come into effect until 1999 when the introduction of the euro and EMU came into being. Both were launched to much fanfare by many academics and policymakers as highlighted by (Cohen, 2003), many predicted a rosy future for the new currency and some predicted the euro would eventually challenge the US dollar for global supremacy. (Gros & Thygesen, 1998, p.373) states that the euro will be a second global currency. Furthermore, (Mundell, 2000, p.57) was in no doubt that the euro would eventually challenge the US dollar. Moreover, according to (Bergsten, 1997) and (Alogoskoufis & Portes, 1997), the strength of the Eurozone’s economy and hence economic fundamentals means that the euro challenge was likely to be sooner.

However, according to (Cohen, 2003), few, such as McCauley, (1997) and (Wyplosz, 1999) disagreed with the pace, not the trajectory of the euro’s challenge and optimism. Moreover, fewer still questioned the enthusiasms towards the euro at the time, such as Feldstein, (1997) and Calomiris, (1999). Feldstein, (1997) warns of the increased likelihood of conflicts between EU member states due to disagreements among the Eurozone member states with regards to the goals and methods of monetary policy. Thus, leading to economic disputes on several issues and hence distrust amongst some member states.

Moreover, as Calomiris, (1999) argues there are two significant issues at the heart of the EMU agreement that could prevent the euro from challenging the US dollar. The first is the ability of any member state to exit the Eurozone, thus leading to the possibility of the threat of withdrawal being used to influence monetary policy. The second issue is a lack of credible plans to guard the euro against fiscal shocks in member states. Furthermore, according to (Cohen, 2003), significant obstacles were standing in the way of the euro:

- The persistent inertia behaviour of monetary systems
- The high costs of business
- The “anti-growth” bias built into EMU
- Ambiguous governance structure of EMU

## Journal of Economics and Political Economy

Although as hinted by (Cohen, 2003), there is no reason why the EU may not overcome these obstacles.

Nevertheless, during the early part of the euro, there were many positives concerning the financial markets. According to (Danthine, Giavazzi & Von Thadden, 2000) and (Trichet, 2001), the euro had an immediate impact on the Eurozone financial markets. Furthermore, according to (Fratzscher, 2002) and (Baele *et al.*, 2004), the EMU is the main driving force for the increased integration in the Eurozone equity markets since 1996. As (Baele *et al.*, 2004) states, there are three critical elements of the Eurozone financial market integration:

- The advantages of sector diversification have surpassed those of country diversification.
- Common news factors increasingly determine equity returns.
- The decrease of home bias leading to an increasing diversification in financial portfolios.

However, (Ehrmann & Fratzscher, 2002) found that US macroeconomics news continued to have a more considerable impact on Eurozone financial markets. Moreover, the effect of the euro was diverse across the Eurozone financial markets spectrum, as (Galati & Tsatsaronis, 2003) notes. Indeed (Cappiello *et al.*, 2006) found that in comparison with the bond market, the integration of the equity market was partial. Furthermore, according to (Bekaert *et al.*, 2013), the increased financial integration was mainly due to EU Membership and not euro adoption.

According to (Banducci, Karp & Loedel, 2009), the euro enjoyed majority support across the EU despite the significant inflationary pressures during the first ten years. The reasoning is a combination of positive effects on the EU and the strength of the new currency. Nevertheless, (Tsoukalis, 2011) hints at a shift during the second decade in the prospects of the euro. After a period of economic recession and financial crisis, many were questioning the monetary union and EU. According to (Genschel & Jachtenfuchs, 2018) and (Jones, Kelemen & Meunier, 2016), the crises and economic recessions have highlighted the fundamental flaws in the original structure of the monetary union agreement. However, as European Commission president, Romano Prodi, prophesied in the Financial Times in December 2001:

“I am sure the euro will oblige us to introduce a new set of economic policy instruments. It is politically impossible to propose that now. But some day there will be a crisis and new instruments will be created.”

As illustrated by the comment, the EU knew these flaws since the interception of the EMU project. As argued by (Jones, Kelemen & Meunier, 2016), the EMU project had three crucial factors for the success of the euro in the long term missing:

- Fiscal Union
- Macroeconomics adjustment policies
- A unified banking regulation

## Journal of Economics and Political Economy

According to (Jones, Kelemen & Meunier, 2016) then, the seeds to the crises were planted in the inadequate policies underpinning the EMU on its inception. Moreover, at the heart of this inadequacy was the lowest common denominator factor facilitated by the intergovernmental bargaining process as dictated by liberal intergovernmentalism.

As hinted by (Genschel & Jachtenfuchs, 2018), at the heart of the neofunctionalism and liberal intergovernmentalism theories is a simple truth that integration is the efficient collective response to a common European problem. The problem is that the EMU was not genuinely efficient and collective as proved by the crises. In essence, the EMU project created as many problems as it solved. As listed by (Genschel & Jachtenfuchs, 2018), the EU has come up with some possible scenarios for the future path of integration:

- “carry on”, this implies an ad-hoc problem-solving unreformed EU. Nevertheless, as recent events have proven, this is a risk riddled scenario.
- Unwind back to the Single market integration policy, thus dropping all attempts at core-power integration and abandoning the EMU and Schengen projects. This scenario was unpredictable and had many unknown issues. Therefore it was deemed too costly, even for crisis-hit members such as Greece.
- Increased horizontal differentional integration whereby unwilling or unable member states opt or forced to opt-out of further integration of state core powers. This scenario contains no understanding of the solutions to existing problems. Moreover, it would need an increased willingness by the “able” to show a multilateral solidarity.
- “doing less more efficiently”, this implies the EU focusing on a few essential functions and more importantly getting involved in the regulation of these functions.
- Increase full integration for all member states. The fear is that this scenario may lead to a federal interpretation of the EU integration.

Furthermore, As argued by (Jones, Kelemen & Meunier, 2016), the incomplete piecemeal approach to the crisis presented two intertwined puzzles. The first is that at the start of the Euro crises, the leaders acknowledged that such an approach would be inadequate. The second is the tendency for every step in this piecemeal approach to lead to further EU integration rather than disintegrate. As a result, “failing forward” by the constant policy of responding to failures of incremental reform of EU with new piecemeal reform for deeper integration. Providing answers to this intertwined puzzle means analysing both the intergovernmentalism and neofunctionalism approaches. The key argument here is that each school addresses a specific issue within this puzzle; intergovernmentalism captures the dynamism within the critical junctures, whereas neofunctionalism defines the mechanism underpinning links between one critical juncture and the next. The fusion of these two schools would

## Journal of Economics and Political Economy

present a complete picture of the EU's response to the Eurozone crisis, thus explaining the fail forward pattern in EU integration.

As defined by (Schimmelfennig, 2017), a crisis in European integration is a situation whereby the decision-making process could manifest into a threat leading to a significant probability of disintegration. A disintegration is the reduction of the current level, scope and membership of integration. Simply put, an integration crisis is one which could threaten the extent of pooling and delegation, EU policy competences or member states exiting. This definition was at the heart of the crises within the EU during the last few years. Furthermore, crises are open-ended events that may disintegrate the EU, the reassertion of the status quo or further integration. Thus, capturing the essence of a decision-based crisis cycle: spill-back, encapsulation and spillover leading to positive, negative or stable changes in the integration process.

According to (Schimmelfennig, 2017), in its most general conceptualisation an explanation of a crisis in the EU integration process generates a deviated response from all three prevailing theories of EU integration. As illustrated by Table 1, there are varied differences in all categories of an integrated crisis which highlights the underlining assumptions of each theory. These differences range from the explanation of the crisis to the eventual outcome. Depending on the theory, the result could be disintegration or further integration. In summarising, the three theories do agree with the importance of the crises to the catalyst of theoretical and observational changes in European integration. However, they disagree with the source, processes and effects of the crises on the integration process.

**Table 1.** *Integration Theories General Explanation of Crises*

	<i>Intergovernmentalism</i>	<i>Neofunctionalism</i>	<i>Postfunctionalism</i>
<i>Crisis origin</i>	Exogenous: International Challenges Domestic changes	Endogenous & International: Spillover	Endogenous & domestic: euro-scepticism
<i>Crisis mechanism</i>	Bargaining	Path-dependency	Politicisation
<i>Condition of crisis outcome</i>	Intergovernmental preferences Power constellation	Interdependence, supranational autonomy and capacity	Insulation
<i>Crisis Outcome</i>	N/A	Positive feedback: resilience, integration	Negative feedback: stagnation, disintegration

Source: Schimmelfennig, (2017).

Thus, highlighting the three separations in the explanation of the EU integration process during the crises. Firstly, the intergovernmentalism account for the euro crises. As suggested by (Hooghe & Marks, 2019), the euro crises had several features which could be explained by intergovernmentalism. The threat to the existence of the Eurozone was significant and immediate.

Moreover, the EU did not have the financial resources and legality to intervene as the lender of last resort. Hence the solution was in the

B. Fakhry, 7(4), 2020, p.261-283.



## Journal of Economics and Political Economy

intergovernmental bargaining between the member states. Thus, resulting in a “*chicken game*” characterised by hard intergovernmental bargaining and brinkmanship between the northern rich nations and southern crisis-ridden nations. The threat of the crisis to the existence of the Eurozone ensured a lengthy and iterated intergovernmental negotiation characterised by substantial interdependence and sharp asymmetries. The resulting series of lowest-common-denominator deals constrained by the diverged preferences on the distribution of costs did just enough to avert the dissolution of the Eurozone. Conversely, minimising the immediate expense to the northern states in the dominant bargaining position.

As hinted by (Hooghe & Marks, 2019), the long-term perspective was explained by the neofunctionalism approach. The severity of the euro crises was mainly due to the “*half baked*” functionality of economic and monetary integration introduced by the Maastricht Treaty. Neofunctionalism dictates that when the euro crises hit, path dependency meant that member states were primarily concerned with saving the Euro generating intense pressures to fixing the flaws. Initially, the agreements were to introduce several institutions under the direct influence of member states; subsequent agreements nudged these institutions towards control by the EU. The ECB also obtained more powers to act as like any central bank to supply money and buy assets thru QE and outright monetary transactions policies. Hence, the crisis was the result of an unintended spillover and concluded with enhanced supranationalism.

And finally, the postfunctionalism account. According to (Hooghe & Marks, 2019) in contrast, postfunctionalism perceived the response by the EU to the euro crises as a result of domestic politics and, particularly, the rise of nationalist opposed to European integration. This issue was central to the lack of a quick, cohesive and strategic response; therefore resulting in the spiral of the crisis. Moreover, the domestic politics during the crisis meant a resistance to supranational solutions. Furthermore, northern governments were reluctant to heed advice to ditch their “*me first*” policies of economic growth fearing public opinion. This combination of fear and greed undermined the response of the EU nearly led to the collapse of the Eurozone. A further complication, according to postfunctionalism, was the politicisation of the crisis. Thus, leading to a narrowing of reform options in the wake of the crisis. This procrastination meant that instead of the urgently required reform of the Eurozone, a cocktail of monetary policy, bailouts and tightening regulations was the result. Moreover, the price paid by all sides was high.

However, the impact on the euro was small, to explain the limited impact, we need to understand the psychology of the market participants. A fundamental explanation of the lack of any effect on the euro is the euro heuristic, as derived by (Szyszka, 2013). The euro heuristic is the tendency of market participants to put all Eurozone states under the same label. Another factor is the belief by many that the euro was safe because both sides were not willing to abandon it. As stated by (Moravcsik &

B. Fakhry, 7(4), 2020, p.261-283.

[Schimmelfennig, 2012](#)), the risk of catastrophe would unite all parties of the EU to avoid the immediate costs of default. For the southern countries at risk from high debt, there were high external and internal macroeconomic risks associated with leaving the euro. For the more prosperous countries of the north, the breakup of the euro would have meant currency appreciation and thus loss of trade.

Nevertheless, the popular resistance to further EU integration, as highlighted by several recent events, has the potential to impact on the Euro. As highlighted by ([Schimmelfennig, 2018](#)), according to postfunctionalism differentiated integration and disintegration are attributed to a politicisation process. This process points to a shift in European integration issues from interest groups to the masses where political identity plays a more significant role. Here are several factors driving the politicisation process:

- the depth of integration
- exclusive national identity
- Euroscepticism
- referendums

According to ([Schimmelfennig, 2018](#)), the demand for disintegration centre around the three hypotheses based on the last three factors:

- The spillover of integration into identity-relevant areas.
- A big issue is the increase in Eurosceptic political parties within the member states.
- The increase availability or use of EU integration referendums.

The European Parliament election of 2014 and Brexit were the catalyst for the demands for a partial or full disintegration. Underpinned by nationalist populism tendencies which are deviated towards euro scepticism as hinted by ([Fligstein, Polyakova & Sandholtz, 2012](#)), ([Guiso et al., 2019](#)), ([Luo, 2017](#)), ([Polyakova & Fligstein, 2016](#)) and ([Tsarouhas, 2019](#)). The increasing popularity of political parties such as National Rally in France is a threat to further EU and Eurozone integration. Furthermore, as hinted by ([Fakhry, 2019b](#)) since the Franco-German axis is the driving force behind European integration, the substantial rise of National Rally could present some difficulties to further Eurozone and EU integrations. However, many like ([Mudde, 2016](#)) disagree with the significance of both the 2014 European Parliament election and Brexit. Moreover, the problematic and long winding Brexit negotiations should act as a repellent against any thoughts of disintegration, especially for the eurozone members.

### 3. Methodology

Since as stated by ([Pastor & Stambaugh, 2012](#)), conventional wisdom dictates that there is a difference between long and short runs in economics and, more specifically, the financial markets. Moreover, ([Engle & Lee, 1999](#)) hints that volatility has a more rapid mean reversion in the short run than in the long run. Also, ([De Bondt, 2000](#)) indicates that the price reverts to the fundamental price in the long run. Effectively what ([De](#)

**B. Fakhry, 7(4), 2020, p.261-283.**



Bondt, 2000), (Engle & Lee, 1999) and (Pastor & Stambaugh, 2012) are indicating is market participants' reactions tend to deviate overtime. Thus, meaning that markets are generally less volatile and reactive in the long run due mainly to being less perspective to shocks and hence are more stable.

In analysing the stability of the Eurozone financial markets in the long and short run in the aftermath of the introduction of the Euro, we used the methodology of (Fakhry & Richter, 2018). Like (Fakhry, 2019a), we use the asymmetrical C-GARCH-m model of (Engle & Lee, 1999) as the model of volatility underpinning our stability test in the long and short run. As with (Fakhry & Richter, 2018) and (Fakhry, 2019a), we adhere to the two pre-requisite steps advocated by (Shiller, 1979) and (Shiller, 1981): calculate the 5-day variance and estimate the residuals as in Equation 1 and Equation 2.

$$\lim_{t \rightarrow T} var(Price_t) = \frac{\sum_{q=1}^Q (Price_t - u)^2}{Q} \quad (1)$$

$$var(Price_t) = a + b.var(Price_{t-1}) + \mu_t, \mu_t = T\mu_{t-1} + \varepsilon_t \quad (2)$$

Since we follow the methodology of (Fakhry, 2019a) by including the feedback effect, we are thus using the GARCH-m model of (Engle, Lilien & Robins, 1987) as the mean equation illustrated in Equation 3. The key to interpreting the feedback effect is the  $\lambda$  coefficient in equation Equation 3. Thus, a significantly positive  $\lambda$  coefficient hints at a positive feedback effect and suggests that as risk increases, the return should increase as well. However, in contrast, a significantly negative  $\lambda$  coefficient means as risks increases, the returns should decrease.

$$var(Price_t) = \lambda h_{t-1} + a + b.var(Price_{t-1}) + \mu_t \quad (3)$$

We estimate a first-order asymmetrical C-GARCH-m (1, 1) model to obtain the long and short-run volatility using Equation 3. As derived by (Engle & Lee, 1999), the asymmetrical C-GARCH model is as illustrated in Equation 4 and Equation 5. Equation 4 is the long-run volatility, and Equation 5 is the short-run volatility. The critical interpretation of the volatility model and the calculation of the stability status is in the coefficients of Equation 4 and Equation 5. Since as illustrated by (Engle & Patton, 2001), in the short-run, the  $\alpha$  and  $\beta$  coefficients represent the market shocks (or news) and persistent respectively in Equation 5; thus in the long-run, we can deduce that  $\varphi$  and  $\rho$  represent the market shock (or news) and persistent respectively.  $\gamma$  is the asymmetrical effect whereby if  $\gamma$  is  $>0$ , then there is a leverage effect meaning that negative shocks have a more significant impact than positive shocks.

$$m_t = \omega + \rho m_{t-1} + \varphi(k_{t-1} - h_{t-1}) \quad (4)$$

$$(h_t - m_t) = \sigma^2 + (\alpha k_{t-1} - m_{t-1}) + (\beta h_{t-1} - m_{t-1}) + \gamma(k_{t-1} - m_{t-1})I \quad (5)$$

$$\text{where } I = \begin{cases} 0, & \varepsilon \geq 0 \\ 1, & \varepsilon < 0 \end{cases}$$

As stated by (Fakhry, 2019a), the coefficients of both equations are required to calculate the stability statistics in our variance bound test. We derive our stability test by using the f-statistics, which for our observed data samples at the 5% level is 1.96, which means that our short and long-run stability statuses are Equation 6 and Equation 7 as derived by (Fakhry, 2019a). As in (Fakhry, 2019a), the conditions in Equation 6 and Equation 7 mean that the markets are stable and therefore have the potential to be efficient. Otherwise, they are volatile and inefficient.

$$SS_{SR} = \frac{(\alpha+\beta+\gamma)-1}{sdev(var(Price))} \leq FStat \quad (6)$$

$$SS_{LR} = \frac{(\varphi+\rho)-1}{sdev(var(Price))} \leq FStat \quad (7)$$

### 4. Data description

As stated earlier, this paper analyses the stability of the eurozone financial markets during three different periods (Euro introductory and enthusiastic period, crises period, and the rise of nationalistic tendencies period). Hence, we observe the Euro FX market to determine the stability of the market. We use the nominal broad effective exchange rate obtained from the Bank for International Settlements as our observed Euro FX index dataset. Our data consist of daily market observations on a 5-day week basis between 1<sup>st</sup> January 1999 and 31<sup>st</sup> December 2019, filling the missing data with the last previously known data. Thus, giving us a total of 5,478 observations.

### 5. Empirical evidence

This research is essentially an analysis of the long/short-run behaviour of the FX market over the three critical periods in the lifetime of the euro. Hence, in this section, we will analyse the stability and reaction of the Euro FX Index during three observed periods:

- The Introductory period observed from 1<sup>st</sup> January 1999 to 7<sup>th</sup> June 2007
- The Crises period observed from 8<sup>th</sup> June 2007 to 23<sup>rd</sup> May 2014
- Populist era observed from 24<sup>th</sup> May 2014 to 31<sup>st</sup> December 2019

In estimating the models, we used the Marquand estimation method and normal distribution for all except the last period where we used GED distribution. Crucially, the system environment may influence the estimation: our system is running EViews 11 on a Windows 10 Procomputer with a ten cores CPU and 32 Gigabytes RAM.

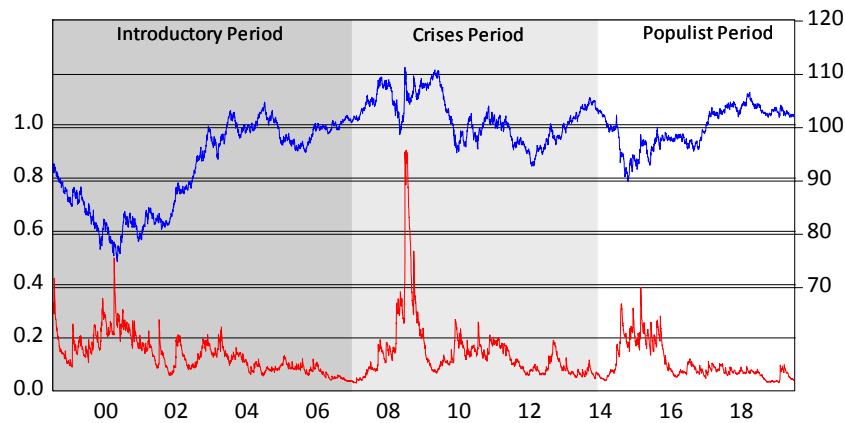


Figure 1. Euro FX Index Price/Volatility

Introductory period (1<sup>st</sup> January 1999 – 7<sup>th</sup> June 2007)

As illustrated by Table 2, the stability statistic during the introductory period point to a stable Euro FX market in the long run; nevertheless, in the short-run, the statistic point to a volatile market. This market status is to be expected, since as stated by (Pastor & Stambaugh, 2012), conventional wisdom dictates there is a difference between the short and long runs. Generally, markets are more volatile in the short run than the long run due to being more perceptive to shocks. In other words, the Euro FX market was acting according to the standard model of stability. For an explanation, we should look no further than the impact on the behaviour of market participants due to the high esteem held on the euro.

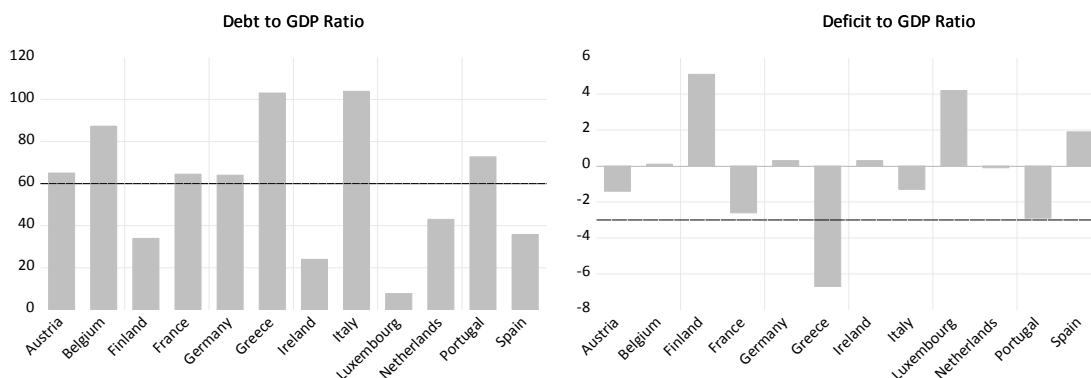
Table 2. Stability Statistics

Period	Introductory	Crisis	Populism
<i>Mean Equation</i>			
$\lambda$	-48.16507 (1.47052)	-1.159715 (0.013797)	-20.06817 (2.280472)
$a$	0.006503 (0.0000637)	0.008379 (0.0000711)	0.004446 (0.000057)
$b$	0.850834 (0.000977)	0.8869 (0.000534)	0.895971 (0.001304)
$\mu$	1.041197 (0.001745)	0.996237 (0.000383)	1.065394 (0.001581)
<i>Variance Equation</i>			
$\omega$	5.51E-05 (0.0000689)	1.37E-05 (0.00000424)	3.95E-04 (0.000213)
<i>Long-run Volatility</i>			
$\rho$	0.999717 (0.000499)	0.688325 (0.015007)	0.99896 (0.000599)
$\phi$	0.062181 (0.004522)	0.136586 (0.003271)	0.306595 (0.012149)
<i>Short-run Volatility</i>			
$\alpha$	0.509198 (0.012595)	0.334797 (0.001347)	0.264035 (0.013898)
$\gamma$	-0.284205 (0.008399)	-0.254329 (0.000971)	-0.094332 (0.011982)
$\beta$	0.410574 (0.014589)	0.62349 (0.001354)	0.732849 (0.01454)
<i>Model Statistics</i>			
R2	0.976249	0.989023	0.974515
Log Likelihood	9002.11	7559.88	6309.92
DW-Statistics	1.757622	1.719615	1.709137
ARCH effect	0.607483	1.861465	0.00193
Jarque-Bera	1.31E+03	2.22E+03	1.45E+03
$\sigma^2$	0.036304	0.06877	0.041619
<i>Stability Test</i>			
<i>Long-run Stability</i>			
Stability Statistic	1.704991	2.546008	7.341719
Stability Status	Stable	Volatile	Volatile
<i>Short-run Stability</i>			
Stability Statistic	10.038370	4.304813	2.341431
Stability Status	Volatile	Volatile	Volatile

## Journal of Economics and Political Economy

The euro came into being on the back of some over-enthusiasm reaction. Thus as illustrated by Figure 1; during the initial stage of the introduction, the euro was highly volatile. This over-enthusiasm led to the euro being initially over-priced, which meant there were some intense downward pressures on the price. However, by early 2001, the euro was beginning to establish itself as a primary global currency and stabilising force in the European integrative process. The European Union economies, more specifically the Eurozone, were on an upwards trends which reflected on the euro. It seems the criticisms directed at the underlining EMU policy were not an issue. However, on closer inspection, the economic situation underpinning the strength of the euro was somehow weaker than first sight would suggest as illustrated by the collection of economic graphs in Figure 1. Remember the Stability & Growth Pact underpinning the European Monetary Union set the limit at 60% and 3% for the debt and deficit to GDP ratios. Although, neither the ECB nor the EU seems to have GDP growth and unemployment rate targets, yet the majority of the 12 original Eurozone members had a higher unemployment than the US target of 5.5%. What is astonishing is the Greek statistics, yet the banks continued to buy the Greek debt.

A long bull market and economic upturn in the global economy was at the forefront of this period. At the heart of this long period of economic boom was the housing market bubble induced by low interest rates and high leverage. Although the headline housing market bubble was mainly in the US; however, there was evidence across the Eurozone of a housing market bubble. The bubble was subsidised by the securitisation of mortgages in highly complex mortgage-backed securities and collateralised debt obligations offering high rates of returns. These securitised financial assets offered high yields on investments; however, they were highly risky and complicated financial assets as argued by (Barberis, 2013), (Brunnermeier, 2009) and (Masood, 2009) amongst others. Although, most people would agree that the US securitisation market was instrumental in the bubble; yet, European securitisation markets were also partly responsible for the housing market bubbles in certain countries.



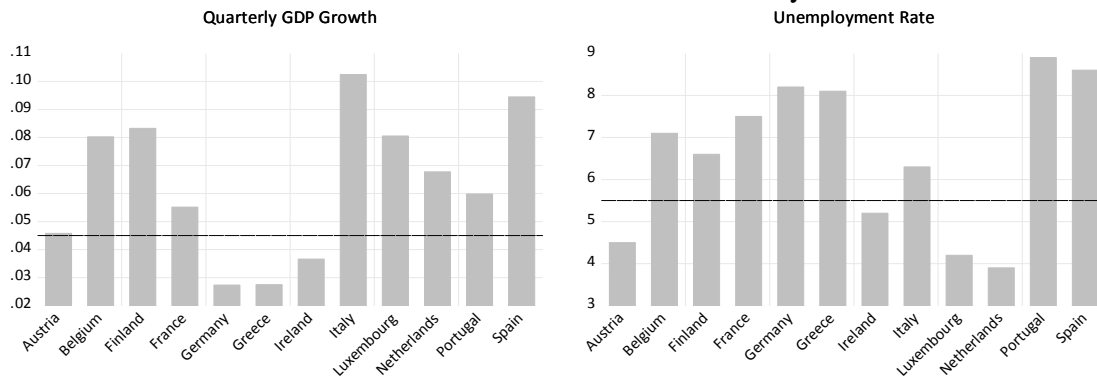


Figure 1. Key Economic Statistical Data in 2007 (source Eurostat)

One possible explanation for the market participants’ reaction is found in the “Euro Heuristic” as derived by (Szyszka, 2013), which dictated that market participants tended to simplify by putting all the Eurozone financial assets in the same boat marked euro. This scenario included the adoption of sovereign debt from the GIIPS group of nations as safe-haven assets required by the Basel II regulation; in addition to risky financial assets from the periphery Eurozone member states, such as the securitised MBS or CDO from the GIIPS nations.

According to (Barberis, 2013) and (Szyszka, 2013), an underlying issue was that market participants were extrapolating into the future with both sovereign debt and securitised assets markets. In the case of the securitised assets, they were extrapolating the rise of house prices too far into the future as identified by (Barberis, 2013). However, with the sovereign debts; they were extrapolating the continuation of the economic upturn as signified by (Szyszka, 2013). The markets were enjoying the honeymoon period of the Euro and EMU, failing to see the strategic consequences of the EMU and hence associated risks. This false sense of confidence in the economy and financial markets created by the integrative process of EMU and euro created a bubbled and overleveraged economy.

As portrayed by (Szyszka, 2010), at the heart of this period of economic boom and bubbled financial market was the fear/hope (greed) conundrum<sup>2</sup>. As explained by (Lopes, 1987) and (Shefrin & Statman, 2000), there are two emotions dictating risk management, namely fear and hope(greed). While fear is determined by the overweighing of the worst-case scenario probabilities, greed is determined by the overweighing of the best-case scenario probabilities. Simply put, greed makes market participants unduly optimistic on investment opportunities; while fear makes market participants increasingly pessimistic. In short, market participants were showing signs of greed due to their excessive optimism towards the euro.

This greed gave rise to a housing market and securitisation assets bubble in some eurozone member states, particularly Spain. The influencing factor behind this bubble is the ever-increasing rate of returns required by market

<sup>2</sup>(Szyszka, 2010) refers to greed and fear but (Shefrin & Statman, 2000) and (Lopes, 1987) refer to it as hope and fear.

## Journal of Economics and Political Economy

participants during a period of long-lasting boom in the global financial market. Furthermore, the low cost of finance meant market participants were able to leverage at high levels just to increase the returns on investment. Policymakers underestimation of the significance of the developing bubble and the euro heuristic certainly helped inflame these two factors, as hinted by (Szyszka, 2010). The high rates of returns and low costs of finance during a booming economy meant that market participants became increasingly greedy and demanding,

There is a further explanation of there was a need for European market participants to invest in these financial assets, due to the enormous earnings made by their US counterparts. Thus inducing peer group pressure and leading to envy as highlighted by (Hodgson, 2013). Moreover, as noted by (Alchian, 1950) and (Friedman, 1953), the sole existence of a publicly listed company is to maximise the shareholders' wealth. Hence, many European financial institutions were under pressure to increase earnings and thus maximise the shareholders wealth.

In essence, as noted by (Barberis, 2013), thru the use of the belief manipulation hypothesis; market participants were able to delude themselves into thinking that their model was in the best interest of the organisation and thus the shareholders' wealth. The belief manipulation hypothesis dictates that market participants affected by cognitive dissonance will attempt to manipulate their mindsets into thinking they are acting for the good of all involved. A key behavioural component in the belief manipulation hypothesis is the representative heuristic dictating that since the prices of the underlining assets; in this case, the houses, were likely to continue rising; hence these securitised assets were expected to continue to be low risk. Another representative heuristic is that the economy of the Eurozone was expected to continue getting more robust based on the strength of the euro. Therefore investing in the sovereign debt of many periphery member states was risk-free and hence could be regarded as tier 1 capital under the Basel II regulations.

### 5.1. The Eurozone Crises (8<sup>th</sup> June 2007 – 23<sup>rd</sup> May 2014)

Table 2. is pointing at a volatile Euro FX market during the crisis period, and the critical factor is that it is not limited to the short-run. The long-run is also volatile, thus going against the conventional wisdom as dictated by (Pastor & Stambaugh, 2012). Therefore, highlighting the depth and extreme uncertainty of the crises. In essence, this period was the combination of three critical factors into a perfect storm; which left many people questioning the European integrative process and the EMU. However, as (Dabrowski, 2010) illustrates the continuation of the euro optimism; when added to the initial rebuttal of the financial crises as merely an American issue, meant that market participants continued to believe in the euro. Furthermore, the European response when it finally did arrive was late and uncoordinated. To understand the impact of this EU and euro FX market

B. Fakhry, 7(4), 2020, p.261-283.



## Journal of Economics and Political Economy

uncertainty on the market participants, we need to understand the reactions of the market participants towards the volatile financial markets and confusion at the heart of the EU.

By the end of 2005/early 2006, the housing market bubble burst, and subprime defaults rose. Nevertheless, as subprime defaults rose, the securitisation of the subprime loans was continuing; eventually leading to the global financial crisis. As noted by (Barberis, 2013), a surprising feature of the crisis was the dramatic decline of many risky assets of various types. Given the relatively small size of the subprime loan, the widespread and dramatic nature of the falls in prices of risky assets did, to say the least, take most people by surprise. Moreover, the speed at which the crisis spread globally suddenly brought into context the integrative nature of the financial market.

A key statistic in explaining this issue is the total write-down, which as of April 2009 stood at \$1.109 trillion in European banks<sup>3</sup> as reported by the IMF<sup>4</sup>. The critical point is that nobody knew the full extent of the total number of subprime-related assets; hence the shareholders were extrapolating across the banking sector and therefore making them fearful of the global banking sector.

As (Szyszka, 2010) suggests and hinted earlier, fear and hope (greed) have opposite attractions on the behaviour of market participants and generally on the trends in the markets. Hence, it comes as no surprise that when the global financial crisis hit; market participants' fear levels rose quickly. Furthermore, an ever-increasing level of fear inevitably leads to panic, which intensifies the depreciation of assets. Thus, increasing the inflow of investments in safe-haven markets such as particular sovereign debt and commodities markets, more specifically the high graded sovereign bonds and gold markets. During the global financial crises, as market participants grew ever anxious concerning the securitised subprime loans market; as highlighted earlier, they became increasingly worried about the extent of the global financial sector's holding of these "bad" assets. Hence fear increased and spread to the global financial sector as observed by panic runs on the global banking sector terminating in the bankruptcy of Lehman Brothers, an investment bank at the heart of the securitised subprime loans, among other major global financial institutions. There are two further conceptualisations of fear that could exuberate a crisis:

- The policy effect dictates the action or inaction of policymakers has the potential of hiking fear among market participants. This issue is key to the lengthening of the crisis, the indecision or incorrect actions by the central banks and government had a negative impact. In the aftermath of the Lehman Brothers bankruptcy, central banks and governments across the globe were forced into action by events.

<sup>3</sup> Excluding the UK banks

<sup>4</sup> IMF Global Financial Stability Report, April 2009.

- The spillover effect or liquidity spiral see Figure 2, which dictates that if a financial institution has troubles selling a “bad” asset, then it may try to sell a “good” asset. Hence, overflowing the market; thus, decreasing the price and turning the “good” asset into a “bad” asset. This situation occurred during the global financial crisis.

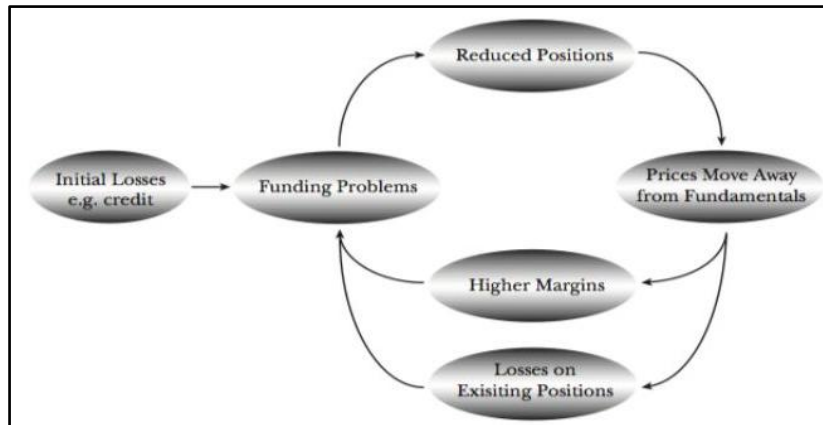


Figure 2. The Liquidity Spiral, source: (Brunnermeier, 2009).

As (Barberis, 2013) hints, a possible explanation is the amplification mechanism. During the crisis, the amplification mechanism dictated that any market participant facing a loss in the value of subprime backed securities tended to sell other risky assets. Thus, pushing down the prices of the other risky assets forcing them to sell their other less risky assets, thereby ensuring a loss or margin spiral. This behaviour is fundamental to the explanation of the global spread of the crisis, particularly in our case to Europe.

However, as noted by (Barberis, 2013), the loss aversion and ambiguity aversion related amplification mechanisms may also have played a vital role in the global financial crisis. Ambiguity aversion dictates that in situations where participants are unable to assign probabilities to future trends, they become increasingly averse. An extension to the ambiguity aversion is the competence hypothesis as presented by (Heath & Tversky, 1991). The competence hypothesis dictates that the level of competence at analysing the situation determines whether the person is ambiguity averse or seeking. This hypothesis partly explains the global financial crisis; the explanation maintains that the initial loss on the subprime backed securities made investors less competent in analysing risky assets. They were thereby increasing ambiguity aversion, leading to a reduction in their holding of risky assets, therefore further reducing the price of these assets.

According to (Barberis, 2013), the second fundamental explanation is the loss aversion theory of (Kahneman & Tversky, 1979). This observe that losses are more sensitive to market participants than profits of similar magnitudes. The less obvious observation is that the degree of aversion may vary with time, depending on the trend of losses or gains. Put simply this means any recent loss increases loss version making them less willing

to take risks that they would have taken otherwise. In terms of the global financial crisis, the initial decline in the price of subprime securities made market participants loss averse; thus, selling the risky assets on their books, further reducing the prices and hence increasing loss aversion. Both the ambiguity and loss aversions played a big part in the amplification mechanism during the global financial crisis and arguably in turning the crisis from a local to a global event.

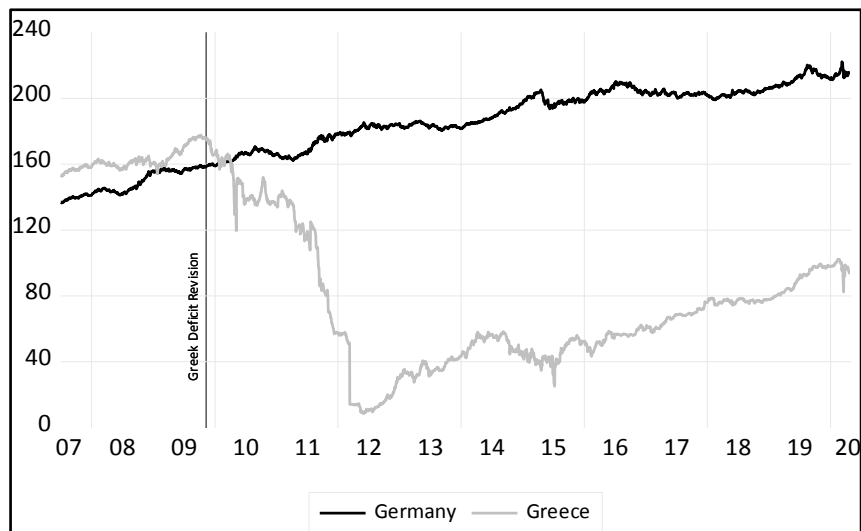


Figure 3. Greek vs German Sovereign Debt Index Prices

Source: S&P Dow Jones Indices

A vital element of the global financial crisis was the continuation of the euro heuristic and horizontal extrapolation, which meant that market participants ignored the weak macroeconomics indicators of the periphery Eurozone member states. This ignorance led to continued high credit rating and investment in the sovereign debt of the GIPS nations as safe havens throughout the global financial crisis.

As stated by (Szyszka, 2013), a puzzling factor in the euro crises is the somewhat belated action of the European banks in reassessing the Greek sovereign debts on their balance sheet. As illustrated by Figure 3, as late as 5<sup>th</sup> April 2010, the Greek sovereign debt was priced higher than the German. The Greek crisis started with the announcement of the upwards amendment of the fiscal deficit in 5<sup>th</sup> November 2009; the banks did not react by amending their financial statements until late 2010-early 2011. Why did it take that long to reassess the risk on their balance sheet? In truth, bad news travels slowly, simply put it is hard to accept bad news. Theoretically, market participants tend to deploy over-optimism or wishful thinking in the belief that positive results can still be possible. Hence, as stated by (Barberis & Thaler, 2003), cognitive conservatism underweights any new information contradicting an earlier positive view. Moreover, since market participants are by nature loss avert, therefore mentally, they are discouraged from admitting failure. Furthermore, as suggested by

(Kahneman & Tversky, 1979), market participants may take higher risks to avoid or postpone loss.

As identified by (Szyszka, 2013), the influence of external players, such as hedge funds and rating agencies, during the euro crises, cannot be underestimated. Among the strategies hedge funds use are short-selling and hedging by buying derivatives such as CDS. Simply put short selling is a strategy whereby the hedge fund bets on the price of an asset falling, as illustrated by Figure 4. Another strategy often used by hedge funds is hedging against a country or organisation by buying a derivative, often Credit Default Swap, against the possibility of a default. EU and national politicians blamed these two strategies during the euro crises for intensifying the crisis. A key behavioural factor underpinning these hedge funds strategies is herding, essentially herding is where market participants react to information or event in a similar way. The hedge funds often used this strategy during the euro crises whereby they would bet on a fall in euro against the dollar and Greek default.

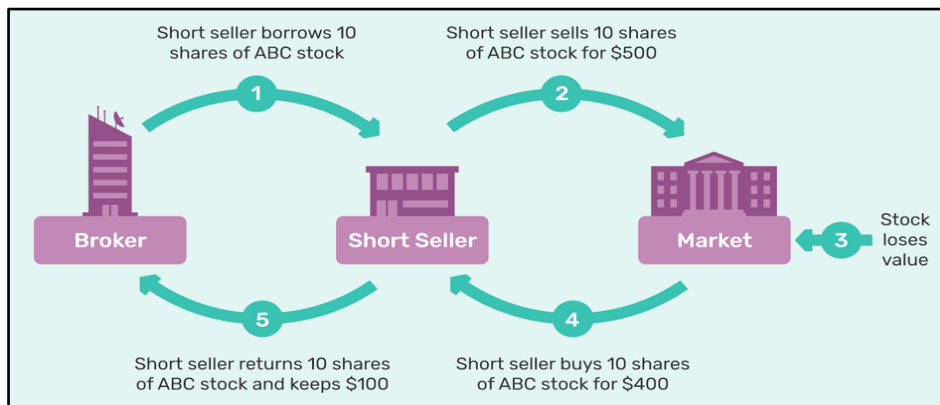


Figure 4. Short-selling strategy

As indicated by (Szyszka, 2013), the second relevant players during the euro crises were the rating agencies who were implicated for the global financial crisis as highlighted by (Barberis, 2013). During the euro crises, it was a case of belated action followed by a quick reaction. The failure to recognise the risk disparity among the EU members gave rise to countries with weak macroeconomics factors being given the same triple-A rating as Germany, essentially Spain and Ireland. Furthermore, the continuation of Greek sovereign debt ratings as investment grade even though macroeconomic factors pointed towards a downgrading was instrumental in the continued investment by market participants. Additionally, the credit rating agencies only acted long after the markets classed the Greek yields as junk. Nevertheless, the rating agencies overreacted in the downgrading of the Portuguese and Irish sovereign debts, even though both countries have agreed to undertake IMF restructuring programs and their economies were in better health than the Greek.

### 5.2. The Rise of Populism and Nationalism (24<sup>th</sup> May 2014 – 31<sup>st</sup> December 2019)

The stability statistics in

Table 2. illustrate the volatile euro FX market during this period of rising populism and nationalism policies among the EU member states. The surprising factor is the long-run stability statistic given, as highlighted previously, conventional wisdom dictates that in the long-run, the market is generally more stable than the short-run. Thus, a stability statistic for the long-run that is significantly greater than in the short-run indicates the highly volatile events during this period. A point worthy of mentioning is that several voices within the Eurozone and EU nation-states were calling for the disbandment of the Eurozone and EMU policy. There were two events which highlighted the uncertainty existing within the Eurozone during this period: the 2014 European parliament elections and 2016 Brexit referendum.

At the heart of the surge in support for the populist and nationalist policies was the dissatisfaction in the economic reality and loss of national identity. However, the problem was that there no previous precedent for an unwinding of a monetary union. As pointed by (Ellsberg, 1961), any situation where the quality and confidence levels of the information is unknown leads to market participants becoming increasingly averse to ambiguity. Hence, the results of the 2014 European parliament and 2016 Brexit referendum were a shock to the EU system, which many did not foresee. A related issue was the availability bias; due to lack of information to relate, market participants linked these events to the euro crisis.

At the heart of the market participants' fear of these events lays a simple truth that humans fear any social signals as hinted by (Zweig, 2010). Thus, meaning any media communication affecting the financial market in any way leads to a reaction from the market participants. Since, there was mix news and political communication about these events and the process, market participants' perceptions were negative. Another critical factor is that the whole these events were emotionally charged, which triggered a snowball effect into the financial market, causing a loss of confidence as suggested by (Zweig, 2010).

Moreover, as observed previously, market participants tend to extrapolate events into the future. During this period, notably the Brexit process, there was an element of vertical extrapolation in the analysis of the economic consequences of the Eurozone collapse. This trait was due in no small part to the ambiguity by the politicians at the heart of these events. Also, during the Brexit process, there was a horizontal extrapolation in play based on the fear that the UK could signal the partial or full collapse of the Eurozone. This fear led to uncertainty in the integrated financial market of the EU, and in particular the Eurozone as many member nations were growing discentivised with the whole EU integrative process (e.g. Italy, France and Holland). The prolonged and complicated process of Brexit is

**B. Fakhry, 7(4), 2020, p.261-283.**

partly down to the fact that the EU does not want to give too many concessions to the UK, in the process illustrating that life outside the EU could be worth considering.

### 6. Conclusion

In summarising, this research used the theory of European integration to review how the European Union reacted to three different episodes in the lifetime of the euro. Furthermore, to give depth to the empirical section, we used behavioural finance theories in explaining the reaction of the market participants in the euro FX market. We analysed the reactions in the market over the short and long runs using the variance bound test of (Fakhry & Richter, 2018).

We found that the market was volatile in the short-run, this is to be expected; since as indicated by (Pastor & Stambaugh, 2012), conventional wisdom dictates that the short run is volatile. However, we also found that the long run was highly volatile during both the euro crises and populist movements episodes which do not conform to the conventional wisdom. On closer analysis, the behaviour of the market participants does suggest a feedback effect between the market participants and the EU. Moreover, since these two episodes were reflecting questions about the very existence of the euro, especially the populist movement episode; hence, they were mirroring the genuine fear in the FX market.

In concluding, it is hard to overestimate the feedback effect on the reactions of both the market participants and the EU during the euro crises and populist movements episodes. The lack of a uniformed plan and miscommunication from the EU and member states did impact the market in the long run. However, as put elegantly by John Maynard Keynes:

*“The long run is a misleading guide to current affairs. In the long run, we are all dead.”*

What we mean is that the EU concentrated too much over the long-run; it partially neglected the problems in the short run. Issues like the loss of a national identity and economic issues, which the populist political parties managed to turn into mass politics. However, another crucial factor is the weaknesses in the EMU at the time of conceptualisation as hinted by Romano Prodi:

*“I am sure the euro will oblige us to introduce a new set of economic policy instruments. It is politically impossible to propose that now. But someday there will be a crisis and new instruments will be created.”*

This factor hints at the long-run issues of the EMU and hence the euro.



## References

- Alchian, A.A. (1950). Uncertainty, evolution, and economic theory. *The Journal of Political Economy*, 58(3), 211–221. doi. [10.1086/256940](https://doi.org/10.1086/256940)
- Alogoskoufis, G., & Portes, R. (1997). The Euro, the Dollar, and the international monetary system. In: P.R. Masson, T.H. Krueger & B.G. Turtelboom, eds. *EMU and the International Monetary System*, (pp.58-78), Washington DC, USA: International Monetary Fund.
- Baele, L., Ferrando, A., Hördahl, P., Krylova, E., & Monnet, C. (2004). Measuring financial integration in the Euro area. *ECB Occasional Paper*. Frankfurt, Germany. [[Retrieved from](#)].
- Banducci, S.A., Karp, J.A., & Loedel, P.H. (2009). Economic interests and public support for the euro. *Journal of European Public Policy*, 16(4), 564–581. doi. [10.1080/13501760902872643](https://doi.org/10.1080/13501760902872643)
- Barberis, N. (2013). Psychology and the financial crisis of 2007–2008. In: M. Haliassos, (ed.), *Financial Innovation: Too Much or Too Little*, (pp.15-28), Cambridge, Massachusetts: The MIT Press. [[Retrieved from](#)].
- Barberis, N., & Thaler, R.H. (2003). A survey of behavioral finance. In: G.M. Constantinides, M. Harris & R.M. Stulz, (eds.), *Handbook of the Economics of Finance*, (1053-1128), 1st ed. Amsterdam: Elsevier B.V.
- Bekaert, G., Harvey, C.R., Lundblad, C.T., & Siegel, S. (2013). The European Union, the Euro, and equity market integration. *Journal of Financial Economics*, 109(3), 583–603. doi. [10.1016/j.jfineco.2013.03.008](https://doi.org/10.1016/j.jfineco.2013.03.008)
- Bergsten, C.F. (1997). The impact of the Euro on exchange rates and international policy cooperation. In: P.R. Masson, T.H. Krueger & B.G. Turtelboom, (eds.), *EMU and the International Monetary System*, (pp.17-48), Washington DC, USA: International Monetary Fund.
- Brunnermeier, M.K. (2009). Deciphering the liquidity and credit crunch 2007–2008. *Journal of Economic Perspectives*, 23(1), 77–100. doi. [10.1257/jep.23.1.77](https://doi.org/10.1257/jep.23.1.77)
- Calomiris, C.W. (1999). The impending collapse of the European monetary union. *Cato Journal*, 18(3), 445-452.
- Cappiello, L., Hördahl, P., Kadareja, A., & Manganelli, S. (2006). The impact of the Euro on financial markets. *ECB Working Paper*. Frankfurt, Germany. [[Retrieved from](#)].
- Cohen, B.J. (2003). Global currency rivalry: Can the Euro ever challenge the Dollar? *Journal of Common Market Studies*, 41(4), 575–595. doi. [10.1111/1468-5965.00436](https://doi.org/10.1111/1468-5965.00436)
- Dabrowski, M. (2010). The global financial crisis: Lessons for European integration. *Economic Systems*, 34(1), 38–54. doi. [10.1016/j.ecosys.2010.01.002](https://doi.org/10.1016/j.ecosys.2010.01.002)
- Danthine, J.-P., Giavazzi, F., & Von Thadden, E.-L. (2000). European financial markets after EMU: A first assessment. *NBER Working Paper*. No.8044. doi. [10.3386/w8044](https://doi.org/10.3386/w8044)
- De Bondt, W. (2000). The psychology of underreaction and overreaction in world equity markets. In: D.B. Keim & W.T. Ziemba, (eds.), *Security Market Imperfections in World Wide Equity Markets*, (pp.65-89), Cambridge: Cambridge University Press. [[Retrieved from](#)].
- Ehrmann, M., & Fratzscher, M. (2002). Interdependence between the Euro Area and the US: what Role for EMU? *ECB Working Paper*, No.376184. [[Retrieved from](#)].
- Ellsberg, D. (1961). Risk, ambiguity, and the savage axioms. *The Quarterly Journal of Economics*, 75(4), 643. doi. [10.2307/1884324](https://doi.org/10.2307/1884324)
- Engle, R.F., & Lee, G.G.J. (1999). A long-run and short-run component model of stock return volatility. In: R.F. Engle & H. White, (eds.) *Cointegration, Causality and Forecasting—A Festschrift in Honour of Clive W.J. Granger*. (pp.475-497), Oxford, UK: Oxford University Press.
- Engle, R.F., Lilien, D.M., & Robins, R.P. (1987). Estimating time varying risk premia in the term structure: The arch-m model. *Econometrica*, 55(2), 391. doi. [10.2307/1913242](https://doi.org/10.2307/1913242)
- Engle, R.F., & Patton, A.J. (2001). What good is a volatility model? *Quantitative Finance*, 1(2), 237–245. doi. [10.1088/1469-7688/1/2/305](https://doi.org/10.1088/1469-7688/1/2/305)
- Fakhry, B. (2019a). Did Brexit change the behaviour of the UK's financial markets? *Journal of Economic and Political Economy*, 6(2), 98-121.
- Fakhry, B. (2019b). Happy 20th birthday Euro: An integrated analysis of the stability status in the Eurozone's equity markets. *Journal of Economics and Political Economy*, 6(3), 226-254.

## Journal of Economics and Political Economy

- Fakhry, B., & Richter, C. (2018). Does the federal constitutional court ruling mean the German financial market is efficient? *European Journal of Business Science and Technology*, 4(2), 111–125. doi. [10.11118/ejobsat.v4i2.120](https://doi.org/10.11118/ejobsat.v4i2.120)
- Feldstein, M. (1997). EMU and international conflict. *Foreign Affairs*, 76(6), 60–73. doi. [10.2307/20048276](https://doi.org/10.2307/20048276)
- Fligstein, N., Polyakova, A., & Sandholtz, W. (2012). European integration, nationalism and European identity. *Journal of Common Market Studies*, 50(SUPPL.1), 106–122. doi. [10.1111/j.1468-5965.2011.02230.x](https://doi.org/10.1111/j.1468-5965.2011.02230.x)
- Fratzscher, M. (2002). Financial market integration in Europe: On the effects of EMU on stock markets. *International Journal of Finance and Economics*, 7(3), 165–193. doi. [10.1002/ijfe.187](https://doi.org/10.1002/ijfe.187)
- Friedman, M. (1953). The methodology of positive economics. In: *Essays in Positive Economics*. (pp.3-43), Chicago, Illinois, USA: University of Chicago Press.
- Galati, G., & Tsatsaronis, K. (2003). The impact of the Euro on Europe's financial markets. *Financial Markets, Institutions and Instruments*, 12(3), 165–222. doi. [10.1111/1468-0416.00064](https://doi.org/10.1111/1468-0416.00064)
- Gali, J., & Perotti, R. (2003). Fiscal policy and monetary integration in Europe. *Economic Policy*, 18(37), 533–572. doi. [10.1111/1468-0327.00115\\_1](https://doi.org/10.1111/1468-0327.00115_1)
- Genschel, P., & Jachtenfuchs, M. (2018). From market integration to core state powers: The Eurozone crisis, the refugee crisis and integration theory. *Journal of Common Market Studies*, 56(1), 178–196. doi. [10.1111/jcms.12654](https://doi.org/10.1111/jcms.12654)
- Gros, D., & Thygesen, N. (1998). *European Monetary Integration: From the European Monetary System to European Monetary Union*. 2nd ed. London, UK: Financial Times/ Prentice Hall.
- Guiso, L., Herrera, H., Morelli, M., & Sonno, T. (2019). Global crises and populism: the role of Eurozone institutions. *Economic Policy*, 34(97), 95–139. doi. [10.1093/epolic/eiy018](https://doi.org/10.1093/epolic/eiy018)
- Haas, E.B. (1958). *The Uniting of Europe: Political, Social and Economic Forces*. 1st ed. Stanford, California, USA: Stanford University Press.
- Heath, C. & Tversky, A. (1991). Preference and belief: Ambiguity and competence in choice under uncertainty. *Journal of Risk and Uncertainty*, 4(1), 5–28. doi. [10.1007/BF00057884](https://doi.org/10.1007/BF00057884)
- Hodgson, G. (2013). *Banking, Finance and Income Inequality*. Positive Money, [Retrieved from].
- Hoffmann, S. (1966). Obstinate or obsolete? The fate of the nation-state and the case of Western Europe. *Daedalus*, 95(3), 862–915.
- Hooghe, L., & Marks, G. (2019). Grand theories of European integration in the twenty-first century. *Journal of European Public Policy*, 26(8), 1113–1133. doi. [10.1080/13501763.2019.1569711](https://doi.org/10.1080/13501763.2019.1569711)
- Jones, E., Kelemen, R.D., & Meunier, S. (2016). Failing forward? The Euro crisis and the incomplete nature of European integration. *Comparative Political Studies*, 49(7), 1010–1034. doi. [10.1177/0010414015617966](https://doi.org/10.1177/0010414015617966)
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–292. doi. [10.1142/9789814417358\\_0006](https://doi.org/10.1142/9789814417358_0006)
- Lopes, L.L. (1987). Between hope and fear: The psychology of risk. *Advances in Experimental Social Psychology*, 20, 255–295. doi. [10.1016/S0065-2601\(08\)60416-5](https://doi.org/10.1016/S0065-2601(08)60416-5)
- Luo, C.-M. (2017). The rise of populist right-wing parties in the 2014 European parliament: Election and implications for European integration. *European Review*, 25(3), 406–422. doi. [10.1017/S1062798717000126](https://doi.org/10.1017/S1062798717000126)
- Masood, O. (2009). Balance sheet exposures leading towards the credit crunch in global investment banks. *The Journal of Credit Risk*, 5(2), 57–76.
- McCauley, R.N. (1997). The Euro and the Dollar. *BIS Working Paper*. Basle, Switzerland. [Retrieved from].
- Moravcsik, A., & Schimmelfennig, F. (2012). Liberal intergovernmentalism. In: A. Wiener & T. Diez, (eds.) *European Integration Theory*, (pp.67-87), Second. Oxford, UK: Oxford University Press.
- Mudde, C. (2016). Europe's Populist Surge. *Foreign Affairs*, 95(6), 25–30.
- Mundell, R. (2000). The Euro and the stability of the international monetary system. In: R. Mundell & A. Clesse, eds. *The Euro as a Stabiliser in the International Economic System*. (pp.57-84), USA: Springer. doi. [10.1007/978-1-4615-4457-9\\_5](https://doi.org/10.1007/978-1-4615-4457-9_5)

## Journal of Economics and Political Economy

- Pastor, L., & Stambaugh, R.F. (2012). Are stocks really less volatile in the long run? *The Journal of Finance*, 67(2), 431–478. doi. [10.1111/j.1540-6261.2012.01722.x](https://doi.org/10.1111/j.1540-6261.2012.01722.x)
- Polyakova, A., & Fligstein, N. (2016). Is European integration causing Europe to become more nationalist? Evidence from the 2007–9 financial crisis. *Journal of European Public Policy*, 23(1), 60–83. doi. [10.1080/13501763.2015.1080286](https://doi.org/10.1080/13501763.2015.1080286)
- Rosamond, B. (2005). The uniting of Europe and the foundation of EU studies: Revisiting the neofunctionalism of Ernst B. Haas. *Journal of European Public Policy*, 12(2), 237–254. doi. [10.1080/13501760500043928](https://doi.org/10.1080/13501760500043928)
- Schimmelfennig, F. (2017). Theorising crisis in European integration. In: D. Dinan, N. Nugent & W.E. Paterson, (eds.), *The European Union in Crisis*. (pp.316–336), Basingstoke, UK: Palgrave Macmillan.
- Schimmelfennig, F. (2018). Brexit: Differentiated disintegration in the European Union. *Journal of European Public Policy*, 25(8), 1154–1173. doi. [10.1080/13501763.2018.1467954](https://doi.org/10.1080/13501763.2018.1467954)
- Schmitter, P.C. (2005). Ernst B. Haas and the legacy of neofunctionalism. *Journal of European Public Policy*, 12(2), 255–272. [10.1080/13501760500043951](https://doi.org/10.1080/13501760500043951)
- Shefrin, H., & Statman, M. (2000). Behavioral portfolio theory. *The Journal of Financial and Quantitative Analysis*, 35(2), 127–151. doi. [10.2307/2676187](https://doi.org/10.2307/2676187)
- Shiller, R.J. (1979). The volatility of long-term interest rates and expectations models of the term structure. *Journal of Political Economy*, 87(6), 1190–1219. doi. [10.1086/260832](https://doi.org/10.1086/260832)
- Shiller, R.J. (1981). Do stock prices move too much to be justified by subsequent changes in dividends? *American Economic Review*, 71(3), 421–436.
- Szyszkka, A. (2010). Behavioral anatomy of the financial crisis. *Journal of CENTRUM Cathedra: The Business and Economics Research Journal*, 3(2), 121–135. doi. [10.7835/jcc-berj-2010-0042](https://doi.org/10.7835/jcc-berj-2010-0042)
- Szyszkka, A. (2013). Economic and behavioural aspects of the Euro crisis. *Argumenta Oeconomica*, 2(31), 49–74.
- Trichet, J. (2001). The Euro after two years. *Journal of Common Market Studies*, 39(1), 1–13. doi. [10.1111/1468-5965.00273](https://doi.org/10.1111/1468-5965.00273)
- Tsarouhas, D. (2019). The EU in crises : Brexit, populism and the future of the union. In: P. Diamond, (ed.), *The Crisis of Globalisation : Democracy, Capitalism and Inequality in the Twenty-First Century*. (pp.127-143), London, UK: I.B.Tauris.
- Tsoukalis, L. (2011). The shattering of illusions - and what next?. *Journal of Common Market Studies*, 49(SUPPL.1), 19–44. doi. [10.1111/j.1468-5965.2011.02185.x](https://doi.org/10.1111/j.1468-5965.2011.02185.x)
- Wyplosz, C. (1999). An international role for the Euro? In: J. Dermine & P. Hillion, (eds.), *European Capital Markets with a Single Currency*. (pp.76-104), Oxford, UK: Oxford University Press.



### Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by-nc/4.0>).

