



How does governance factors influence the trade impact of migration and capital flows in the EU?

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How does governance factors influence the trade impact of migration and capital flows in the EU?

Abstract

Migration has been a topical issue in the European Union. The Successful exit of the United Kingdom from the European Union and the movement of refugees from the Middle East have drawn a lot of attention to the topic. This study investigates the relationships between trade, governance performance, and migration across 23 European countries from 1998 to 2017. Findings from our sys-GMM regression reveal that migration is negatively related to trade while the relationship between Governance and trade is majorly negative. while real GDP and FDI spur the level of trade openness. It is therefore recommended that; the authorities in the EU review and improve regulatory institutions in the region to enable the growth of the export sector in the region. Also, migrants must be integrated into the EU economy to enable them to contribute high skilled labour services and innovative ideas which will lead to growth in economic activities, especially in the export sector.

Keywords: Governance; Migration; Foreign Direct Investment; Economic Growth; Trade Openness

1. Introduction

There has been a rising demand for foreign workers as an input in economic production in advanced economies especially. This reason has caused a spike in global migration and the European Union has been one of the migrant favourite destinations. The increasing level of

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3 globalization and communications technology has also facilitated migration activities, linking
4 people to information and opportunities such as paid employment away from their home countries.
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8 While the migration to Europe can be analysed from several perspectives. This study
9 focuses on the economic contribution of migrants to the European Union, especially as regards the
10 trade performance of the regions. Worldwide, migration is often viewed as an advantage to the
11 receiving economy as it provides labour which enhances economic productivity. Another case for
12 migration and trade is that migrants reduce trade frictions between the host country and their home
13 country, hence trade relations are improved. To this extent host countries go a long way to provide
14 a good environment for migrants by making it possible for skilled migrants to take employment in
15 their countries as well as providing accommodation for refugees and asylum seekers. It is therefore
16 mandatory to empirically analyse the role of migrants in trade flows of the host countries.
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29 We have had different studies that examined the effect of migration on trade. The
30 connection between migrants and hosts enhances trade volume via enhanced information access.
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32 The argument is that eradication of trade restrictions and seeking or scouting charges attached to
33 market interactions is a significant boost to trade volume (Rauch and Trindade, 2002; Hajko et al,
34 2018; Balsalobre-Lorente et al 2019). Felbermayr and Toubal, (2012) asserted that migrants boost
35 trade relations with their hosts in these ways: i) Migrants help host countries to overcome trade
36 restrictions that have to do with traditions, customs, language are tackled, and so business links
37 are established. Migrants also help to avail of qualitative information on sales abroad and scouting
38 opportunities. ii) as more satisfaction is derived from the domestic products by migrants, trade is
39 enhanced. Similarly, when information asymmetry is removed it results in a strong trade link.
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53 On the other hand, the quality of governance in the European Union is much favourable
54 compared to other regions like Asia and Africa. Across EU states, there are observed differences
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3 in the ability of governments to put in place objective, effective, efficient and corrupt-free policies
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5 (European Quality of Government Index, 2017). In discussions on the quality of governance across
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7 EU states comparisons are made between Eastern and Western EU states. For instance, in 2017 it
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9 was noticed that the Eastern regions had better governance performance than the western regions
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11 (Charron and Lapuente, 2018). Particularly, when control of corruption, rule of law, protection of
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13 property rights and government effectiveness are utilized as the consensus indicators of
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15 governance performance in Europe, Denmark and Netherlands are ranked top while Greece and
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17 Romania appear at the bottom.
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22 Governance is associated with various impacts on social and economic life not only across
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24 Europe but the world at large. Numerous researches have been carried out for various countries
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26 and blocs including the European Union to shed light on the likely effects of governance on
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28 economic performance. Gani and Scrimgeour (2016) found that an improvement in governance
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30 performance of Asian countries trading with New Zealand is crucial to the trade boost of New
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32 Zealand. Kaufmann, North (1990), Williamson (2002) and North (2005) all pointed out the role of
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34 good governance via the effectiveness of institutions in determining the trade volume of
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36 economies.
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41 However, in a similar fashion where macroeconomic variables are linked with economic
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43 growth across many country case studies (Balsalobre-Lorente et al., 2020; Etokakpan et al., 2020;
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45 Kirikkaleli et al., 2020; Udi et al., 2020), we found that previous studies examined the link between
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47 migration and trade separately (see for example; Ma, 2019; Sgrignoli, 2015; Bougheaus and
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49 Nelson, 2013) and other studies have also been conducted to investigate the link between
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51 governance (mostly via quality of institutions) and trade (see Sugimura and Murakami, 2016; Gani
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53 and Scrimgeour, 2016; Wu et al, 2013). Our thorough investigations show that no attempt has been
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3 made previously to look at the two relationships together in one study for Europe. Hence, this
4 study intends to make a difference by combining the two relationships in one study. The study also
5 considers the inclusion of several unique governance indicators such as control of corruption,
6 regulatory quality, rule of law, government effectiveness, political stability and voice and
7 accountability from the world governance indicators index.
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12 Therefore, this research study attempts to investigate the relationships among governance
13 performance, trade and migration in Europe. The study builds on the separate existing literature
14 on the nexus between governance and trade on one hand and the other hand the nexus between
15 migration and trade. As it has been earlier stated that this study is likely the first to make such an
16 attempt not only in Europe which is our case study but the world entirely. As a priori expectations,
17 we expect a positive effect of governance performance on trade and the same is expected between
18 migration and trade.
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32 Governance performance is very critical to trade volume as that has been an answer to the
33 question of why Europe's trade with Asian economies and some others is on the rise (see Gani and
34 Scrimgeour 2016). Previous researches mostly find governance exerting a significant effect to
35 trade (see Yu et al, 2010 and so on). On the other hand, the relationship between migration and
36 trade has also been a positive one as confirmed by some previous studies (see Egger et al 2012).
37 This research study contributes to the existing literature in terms of making the first attempt to
38 look at or combine the two separate nexuses of the variables. It is hoped that it forms the new basis
39 of research as a combined study.
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51 The study is organized based on parts. Part 2 is the highlight of previous empirical studies.
52 Part 3 explains the model adopted and why it is relevant to the study. While part 4 present results
53 and discussions, part 5 summarizes these results and makes recommendations.
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2. Literature Review

2.1 Migration-trade Nexus

Studies conducted on migration-trade nexus include; Sgrignoli et al (2015) who studied the nexus between migration and trade using a hypergeometric filter that permits comparing many global networks. They discovered that migrants' activities enhanced trade intensity among a subset of commodities. Furthermore, they adopted a spatial gravity model to perform a cross-sectional analysis on the effect of migration on trade for 146 countries for two distinct years 1970 and 2000 and the analysis showed that migration boosts trade among the selected countries. Focusing on import trade, Bougheas and Nelson (2012) utilized a gravity model to examine bilateral relationships between migration and trade using a cross-sectional data of migrants from 130 OECD and non-OECD going into and out of 27 OECD countries for the year 2000. The study found that migration boosts import trade in host countries and that imports will increase proportionally as the number of migrants increases until the number of migrants exceeds 4000, after which imports will increase but not proportionally. The study strongly recommends the liberalization of migration. Also, Felbermayr and Toubal (2012) find that migrants born within the OECD have a positive impact on imports in other OECD countries where they have migrated to.

Considering studies focusing on single countries, Bratti et al (2014) in their study found that immigrants contributed positively to trade flows in Italy. The study which employed OLS and 2SLS estimations and data of immigrants from 210 countries also, established that the rich diversity of Italy was an advantage to the economy and that trade elasticity to immigrants was goods specific. While the trade enhancement of immigrants differs by nationalities. Ma and Tang (2019) examined the benefits of internal migration on trade among 279 region administered cities.

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3 Using a general equilibrium trade framework they showed that Chinese cities benefit from intercity
4 trade as a result of population inflow. The study also showed that cities with better access to
5 national markets benefited more from the migration-induced trade. While for France, Briant et al
6 (2013) revealed a positive relationship between foreign-born French residents and exports and
7 imports of France with selected 100 countries.
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15 **2.2 Governance-trade Nexus**

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18 Among the literature focusing on governance and trade we have; Anderson and Marcoullier
19 (2002) studied the impact of institutions on trade among 48 importing countries. Their study of
20 found that trade performance is influenced by the quality of institutions in the trading countries.
21 The study which adopted a structural model of import demand also found that countries with higher
22 income could have stronger institutions for trade. Levchenko (2006) studied the impact of
23 institutions on trade for 177 countries using cross-sectional data for the year 1998. The study
24 suggests that variations in the effectiveness of institutions can themselves serve as a source of
25 comparative advantage, hence they significantly determine trade.
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37 *Álvarez et al* (2017) used the bi-country trade data of 186 countries over the period 1996
38 to 2012 to determine how sectorial trade movement responds to institutional quality. The study
39 which adopted the gravity model revealed a positive and significant relationship between trade and
40 institutional quality in the trading countries. Furthermore, in the study conducted by Gani and
41 Scrimgeour (2016) attempt was made to see whether trade between New Zealand and Asia was
42 affected by the governance performance of Asian countries. They found that political rights in
43 Asian countries are negatively and significantly associated with exports from Asia to New
44 Zealand. While political rights in Asia have no significant impact on imports from Asia to New
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3 Zealand. The study concludes that democratic institutions be strengthened to support the expansion
4 of trade between the two parties.
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8 Also, in the panel study of Francois and Manchin (2013) for 209 countries between 1988
9 to 2002, they found that institutional quality has both a positive and negative impact on bilateral
10 trade. Institutional quality had a negative impact on trade in poor countries while it had an impact
11 on trade in richer countries. Li and Samsell (2009) conducted a study on governance environment
12 and propensity to trade among 44 countries accounting for 89% of global trade. The study found
13 that counties with strict adherence to law and order trade more than countries with poor adherence
14 to law and order. In another study conducted by Wu et al (2012) in similar countries as Li and
15 Samsell (2009), they discovered that low trade flows exist in those countries that have governance
16 performance deficits.
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29 Despite the volume of studies on the nexus, the current study presents a different
30 perspective by introducing governance factors and its influence on the trade impact of migration
31 and capital flows in the EU.
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40 **3. Data and Methods**

41 **3.1 Model and Method**

42 In econometric analysis, the use of panel data model is vital for insightful policy making
43 (Adedoyin et al., 2020a, 2020b). Thus, considering that this study covers several countries, it is
44 pertinent to state the inevitability of employing the use of panel data analysis. Also, the humanistic
45 nature of economic relations under study has a dynamic outlook. Because all economic policies
46 regarding immigration, governance as well as trade which happen to be key variables in this work
47 are never static and never will. Rather they are constantly evolving through policy directives,
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3 reforms,etc i.e. the variables keep adjusting over time. As such, the econometrics analysis of this
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5 work must be carried out to capture this dynamism. Additionally, because the number of countries
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7 under study is relatively larger than the period of the study ($N > T$), the econometric methodology
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9 of this work is, therefore, based on the GMM (Generalized Method of Moments).
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13 When modelling such dynamic relationships, the dependent variable is set against its own
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15 earlier realizations - i.e the dependent variable is lagged one time period to form part of the set of
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17 independent variables. This data generating process is called the Autoregressive process of order
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19 1 AR(1). However, in doing this, we face the problem of endogeneity, i.e. the correlation between
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21 the lagged dependent variable which is now part of the set of explanatory variables with the error
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23 term of the model. When confronted with this, it then means that the conventional OLS regression
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25 model will be incapable of handling this problem, hence it will produce wrong, inconsistent and
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27 inefficient estimates. But the GMM can handle the endogeneity problem (Grohmann, 2015).
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32 The GMM model is adjudged to be a better estimator against other competing
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34 methodologies such as; the LS technique, 2SLS, IV regression technique among others because it
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36 yields more consistent and efficient estimate particularly in models characterised with serial
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38 correlation and heteroscedasticity (Adedoyin et al., 2017)
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41 In its general form, the GMM equation is as thus;

$$42 \ln Y_{it} = \phi \ln Y_{it-1} + \beta X'_{it} + (\mu_i + \varepsilon_{it}) \dots \dots \dots (1)$$

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47 Where Y_{it} is the dependent variable and Y_{it-1} its lagged values in country i . X' is a $1 \times K$ regressor
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49 matrix, β is their parameters to be estimated, μ_i is the un-observed time-invariant individual effect
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51 and ε_{it} is the error term.
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3 Following Arellano and Bond (1996) we transform equation (1) through first differencing
4 to fix the fixed effect problem. We therefore have;
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$$7 \quad \Delta \ln Y_{it} = \phi \Delta \ln Y_{it-1} + \beta \Delta X'_{it} + \Delta \varepsilon_{it} \dots \dots \dots (2)$$

10 Then arises the problem of endogeneity as the lagged dependent variable is correlated with the
11 error term., because
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$$14 \quad \Delta \varepsilon_{it} = \varepsilon_{it} - \varepsilon_{it-1} \dots \dots \dots (3)$$

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18 By applying the GMM, certain instruments are introduced to deal with this kind of
19 endogeneity. In GMM, the parameters estimated are gotten by simply setting the averages of the
20 observable behavior of some random variables called moment functions to zero (Imbens, 1997).
21 Estimates generated from these moment functions are consistent even when the distributional
22 assumptions are weak.
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31 Within the GMM there are two approaches; the difference GMM by Arellano–Bond (1991)
32 and system GMM of Arellano and Bover (1995) and Blundell and Bond (1998). When tackling
33 endogeneity, the former does that by differencing the model and by so doing, previous
34 observations are subtracted from the present one thereby increasing the gaps in an unbalanced
35 panel, whereas the later introduces more instruments in dealing with endogeneity which improves
36 the efficiency of the estimators. Additionally, it uses orthogonal deviations rather than subtracting
37 previous observations from the contemporaneous, hence, increase the chances of the computability
38 of virtually all observations no matter the gaps, thereby minimizing data loss (Adeyeye, 2020).
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49 Owing to the superiority of the system GMM over the difference GMM, this work employed the
50 system GMM.
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Besides, several pre and post diagnostics tests were carried out. The pre-diagnostics include; a summary statistic- gives the full picture of the panel, the pair-wise correlation matrix- that shows the level of association among the variables, bin scatter plots- to show us the tolerability of our standard error. The post-estimation diagnostics conducted are; the Hansen and Sargan tests to ascertain the instruments' validity as well as to test for auto and serial correlation of the error term to ensure the reliability of the moment conditions. *The choice of variables for trade openness follows the trade and migration literature presented in section 2, while the choice of governance indices follows (Bellakhal et al., 2019).*

$$TRO = f(RGDP, MIGR, FDI, GOV) \quad (1)$$

$$LTRO_{it} = \alpha_0 + \beta_1 LRGP_{it} + \beta_2 LMIGR_{it} + \beta_3 LFDI_{it} + \beta_4 GOV_{it} + \varepsilon_{it} \quad (2)$$

GOV = Rule of law index (-2.5 weak; 2.5 strong); Government effectiveness index (-2.5 weak; 2.5 strong); Control of corruption (-2.5 weak; 2.5 strong); Regulatory quality index (-2.5 weak; 2.5 strong); Voice and accountability index (-2.5 weak; 2.5 strong); Political stability index (-2.5 weak; 2.5 strong)

3.2 Data

The data set used in this study is all gotten from the WDI with the exception of MIGR which was extracted from Eurostat (see table 1). The time period under review spans 1998 to 2017. The choice of time is chiefly driven by data availability. The countries under observation are the 23 euro countries namely: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

Variable Description

<Insert table 1 here>

4. Results and Discussion

4.1 Pre-estimation Diagnostics

The summary statistics presented in table 2 show that LRGDP has the highest mean, while LMIGR is the most dispersed variable. FDI has the minimum value and LMIGR has the maximum value among the observations in the study. The correlation matrix reveals that there is a negative relationship between LMIGR and the dependent variable LTRO, while other variables (LRGDP, LFDI, ROL, GOE, COC, RQI, VOA, PSI) have a positive association with the dependent variable LTRO. For the governance variables, RQI has the highest mean among the EU countries, and COC has the least, highest and most dispersed value.

<Insert table 2 here>

<Insert table 3 here>

<Insert Figure 1 here>

4.2 Dynamic panel-data estimation, one-step difference GMM

<Insert table 4 here>

Table 4 presents the result from the sys-GMM for 7 models. Results are consistent with previous findings and are also significant. In model 1, an increase in real output positively influence trade openness. It shows a 1 % increase in RGDP increases trade openness by about 0.44%. This outcome is as expected as an increase in economic output enables a country to export more goods and services. Similarly, FDI significantly and positively affects trade openness. As FDI increases by 1%, so trade openness increases by 0.01%. Migration stock is revealed to have an adverse relationship with trade openness. The result shows that for every 1% increase in

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3 migration stock trade openness will decrease by 0.02%. This result is not as expected and differs
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5 from previous studies such as Bougheas and Nelson (2012) and Felbermayr and Toubal (2012).
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8 Accounting for rule of law index (ROL) as governance indicator in model 2, ROL has a
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10 negative and statistically significant coefficient implying that improvements in rule of law harms
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12 openness. This result is against expectation however it is similar to the study of Gani and
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14 Scrimgeour (2016) but is different from the findings of Álvarez et al (2017) and Francois and
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16 Manchin (2013). Again, a 1% rise in migratory stock accounts for about 0.02% decrease in trade
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18 openness in the model, while, RGDP continues to exert a positive and statistically significant
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20 relationship with trade openness. A 1% increase in RGDP increases trade openness by about
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22 0.47%. On the other hand, FDI contributes favourably to trade openness as trade increases by
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24 0.01% when FDI rises by 1%. In model 3, another proxy for governance- Government
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26 Effectiveness (GOE) also to hurts trade openness in the EU as against apriori expectation. While
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28 migratory stock has no impact on trade in the model. A 1% increase in RGDP significantly
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30 increases trade openness by about 0.49% and trade openness increases by approximately 0.01 as
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32 FDI improves by 1%.

33 For model 4, both FDI and RGDP influence trade openness positively and significantly.
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35 As in the other models, migratory stock again exerts a negative and significant effect on openness.
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37 While control of control corruption (C0C) as a governance index exerts a negative but insignificant
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39 effect on trade openness. Model 5 presents a similar result to model 4 and results show that
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41 Regulatory Quality (RQI) negatively but non-significantly affects trade openness. However, we
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43 find a different result for governance in model 6, as voice and accountability (VOA) has a positive
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45 and significant relationship with trade openness. This outcome suggests that a strong governance
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47 environment boosts trade in the EU region. Similar results are documented in [Levchenko \(2006\)](#)
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49 [and Wu et al \(2012\)](#). A 1% increase in migratory stock reduces trade openness by 0.02% as
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51 recorded in previous results. While RGDP and FDI affect trade openness positively and
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53 significantly.

54 Model 7 reveals that Political Stability (PSI) has no significant impact on trade openness.
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56 While for every 1% rise in migratory stock, trade openness reduces by 0.02%. Also, trade openness
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58 significantly reduces by 0.44 % and 0.11 % for every 1% improvement in RGDP and FDI. All
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60 control variables including the six representatives of quality of governance are included in model

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3 8. Results show that trade openness improves as rule of law (ROL), voice and accountability
4 (VOA) and political stability (PSI) improves while the same deteriorates as government
5 effectiveness (GOE), and regulatory quality (RQI) deteriorates. This entails that some form of
6 governance promote trade while other forms hurt trade. Migration has an adverse effect on trade
7 while RGDP and FDI display a positive and significant effect on trade openness.
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12 The post estimation tests for the model shows that the reported p-values of AR(1) signify
13 the presence of high first-order correlation in all the models' specifications while there is no proof
14 of second-order correlation as can be seen in the reported p-values of AR(2) for all the models
15 except model three and five. As for the system GMM, the reported p-values for Hansen test
16 validate the additional moment restrictions. In other words, the test failed to reject the null
17 hypothesis of valid additional moment restrictions in all the model specifications. However, the
18 Sargan test results reject the hypothesis that all instruments are valid.
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27 **5. Conclusion**

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29 This study adopted the two-step system GMM to uncover the possible and/or expected
30 effect of governance factors to trade openness and capital flows in European Union. The study
31 revealed that migration hurts openness in the European Union. Also, Government Effectiveness
32 and Regulatory Quality (RQI) as governance indicator harms trade openness in the EU, while Rule
33 of Law (ROL) and Voice and Accountability (VOA) have an inconclusive impact on trade.
34 Consequently, control of corruption and political stability do not have any significant impact on
35 openness while both real GDP and capital flows positively impact on trade openness
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42 Based on the results from this study, there are some vital policy recommendations for the
43 EU and for trade policy in general. First and foremost, it has been revealed by this study that quality
44 governance is a driver of trade openness which trickles down to economic development for the
45 citizens of the EU. Hence, there is a need to improve and review public institutions to offer services
46 that will promote the expansion of economic activities and trade. Particular attention is paid to the
47 need for the governments in the EU to review institutional laws and regulations especially those
48 concerning government effectiveness and rule of law as they appear to hurt trade in the region, and
49 consequently denying the EU countries of the gains that come with trade. Secondly, this study
50 finds that the flux of migrants to Europe hurts the export performance in the region. This could be
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3 due to increased domestic demand for goods and services as a result of a rise in population owing
4 to migration into the EU.
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7 Additionally, to further grow expansion the EU leadership must take measures to harness
8 labour from new immigrants through effective integration processes and training of migrants to
9 make them participate in economic activities which will enable the growth of the export sector and
10 its dividends on the economy of the region. Lastly, FDI and GDP are drivers of trade openness,
11 hence, the study encourages the authorities to create and sustain an environment that continuously
12 attracts investments and as well expand economic activities in the region.
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20 **Acknowledgements**

21 Not applicable.
22
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24 **Authors' contributions**

25 All four authors have contributed equally to the work. All authors read and approved the final
26 manuscript.
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30 **Competing interests**

31 The authors declare that they have no competing interests.
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Table 1. Variable Description

Variable	Abbreviation	Description	Source
Trade openness: exports plus imports as percent of GDP	TRO	Exports plus imports as percent of GDP	WDI
Gross Domestic Product, billions of 2010 U.S. dollars	RGDP	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2010 U.S. dollars.	WDI
Stock of Migrants	MIGR	Total number of long-term immigrants arriving into the reporting country during the reference year	Eurostat
Foreign Direct Investment, percent of GDP	FDI	Foreign direct investment is the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP.	WDI
Rule of law index (-2.5 weak; 2.5 strong)	ROL	The index for Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and	WDI

		the courts, as well as the likelihood of crime and violence.	
Government effectiveness index (-2.5 weak; 2.5 strong)	GOE	The index of Government Effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.	WDI
Control of corruption (-2.5 weak; 2.5 strong)	COC	The index for Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interests.	WDI
Regulatory quality index (-2.5 weak; 2.5 strong)	RQI	The index of Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	WDI
Voice and accountability index (-2.5 weak; 2.5 strong)	VOA	The index for Voice and Accountability captures perceptions of the extent to which the citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.	WDI
Political stability index (-2.5 weak; 2.5 strong)	PSI	The index of Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism. The index is an average of several other indexes from the Economist Intelligence Unit, the World Economic Forum, and the Political Risk Services, among others.	WDI

WDI = World Development Indicator

Table 2. Summary Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Natural Logarithm					
LTRO	460	4.60	0.45	3.74	6.03
LRGDP	460	10.24	0.64	8.75	11.63
LFDI	426	1.38	1.26	-3.91	5.29
LMIGR	460	10.65	1.68	3.47	14.25

Absolute Values					
TRO	460	111.01	59.65	42.27	416.39
RGDP	460	33827.84	21028.93	6298.13	111968.40
FDI	460	7.31	15.39	-58.32	198.07
MIGR	460	130153.40	208348.20	32.00	1543848
ROL	460	1.18	0.57	-0.36	2.10
GOE	460	1.22	0.56	0.06	2.35
COC	460	1.15	0.76	-0.56	2.47
RQI	460	1.23	0.45	-0.08	2.10
VOA	460	1.15	0.33	-0.29	1.80
PSI	460	0.82	0.40	-0.47	1.76

Table 3. Pairwise Correlation

	LTRO	LRGDP	LFDI	LMIGR	ROL	GOE	COC	RQI	VOA	PSI
LTRO	1									
	--									
LRGDP	0.1655*	1								
	0.0004	--								
LFDI	0.5226*	0.1778*	1							
	0.0000	0.0002	--							
LMIGR	-0.4153*	0.5423*	-0.1585*	1						
	0.0000	0.0000	0.001	--						
ROL	0.1438*	0.7879*	0.1918*	0.3767*	1					
	0.002	0.0000	0.0001	0.0000	--					
GOE	0.1398*	0.7755*	0.2157*	0.3538*	0.9370*	1				

	0.0027	0.0000	0.0000	0.0000	0.0000	--				
COC	0.1040*	0.7817*	0.2273*	0.3610*	0.9535*	0.9399*	1			
	0.0257	00.0000	0.0000	0.0000	0.0000	0.0000	--			
RQI	0.2153*	0.6992*	0.2903*	0.2905*	0.8972*	0.8607*	0.8756*	1		
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	--		
VOA	0.1403*	0.7642*	0.1725*	0.3523*	0.8949*	0.8613*	0.8814*	0.8651*	1	
	0.0026	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	--	
PSI	0.3768*	0.4136*	0.2094*	-0.089	0.5451*	0.5667*	0.5654*	0.5140*	0.5666*	1
	0.0000	0.0000	0.0000	0.0563	0.0000	0.0000	0.0000	0.0000	0.0000	--

Table 4. Results of Dynamic panel-data estimation, two-step system GMM

Dependent Variable: LTRO	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LRGDP	0.441***	0.477***	0.493***	0.475***	0.573***	0.534***	0.441***	0.717***
	(0.0955)	(0.0969)	(0.102)	(0.0950)	(0.0961)	(0.0974)	(0.0961)	(0.260)
LFDI	0.0111***	0.0108***	0.00981**	0.0102***	0.0104***	0.00963***	0.0111***	0.0102
	(0.00345)	(0.00353)	(0.00396)	(0.00349)	(0.00401)	(0.00364)	(0.00348)	(0.00876)
LMIGR	-0.0280*	-0.0272*	-0.0234	-0.0278*	-0.0261*	-0.0302*	-0.0280*	-0.104
	(0.0147)	(0.0148)	(0.0158)	(0.0153)	(0.0157)	(0.0155)	(0.0147)	(0.102)
ROL		-0.0452*						0.458**
		(0.0266)						(0.199)
GOE			-0.113***					-0.358*
			(0.0357)					(0.207)
COC				-0.0535				-0.0336
				(0.0362)				(0.288)
RQI					-0.162***			-0.622**
					(0.0329)			(0.279)
VOA						-0.119***		0.335*

						(0.0305)		(0.180)
PSI							0.00179	0.214**
							(0.0280)	(0.0895)
Observations	355	355	355	355	355	355	355	355
Number of country ID	23	23	23	23	23	23	23	23
Post-Estimation Diagnostics								
Hansen_test	22.23	21.95	22.01	22.07	21.57	21.81	21.87	19.17
Hansen Prob	0.176	0.145	0.143	0.141	0.158	0.150	0.148	0.058
Sargan_test chi2	233.92	222.10	176.90	217.91	174.03	191.24	234.22	40.01
Sargan Prob	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AR (1) test - z	-3.27	-3.69	-3.60	-3.59	-3.42	-3.42	-3.23	-2.43
AR (1) P- value	0.001	0.000	0.000	0.000	0.001	0.001	0.001	0.015
AR (2) test	-0.43	0.19	2.06	0.43	2.65	1.38	-0.51	1.83
AR (2) P- value	0.669	0.852	0.040	0.669	0.008	0.168	0.613	0.067
No. of Instruments	21	21	21	21	21	21	21	21

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1