International Forum
Vol. 24, No. 2
December 2021
pp. 81 - 102

FEATURE

The Interpretation of Daniel 2:41-43 Through A Cointegration Analysis of the Eur

Eric J. Nasution

Abstract. *Daniel's interpretation of King Nebuchadnezzar's dream about the statue's feet and toes crushed by a rock cut out of a mountain, represents how God will crush all those kingdoms and bring them to an end. Using historical, biblical, and econometric analysis in the positioning of the economic power of the European Union (EU), the study fundamentally presented suggestion of potential disintegration among the member countries' economic indicators; particularly the Eurozone's balance of payment problems, rising sovereign debts, deteriorating banking performance, unemployment, and wider income inequality, which all indicated strong cointegration as good predictors with the following medium-term equilibrium equation: y (EU's GDP=1, t) = a0+β1(y CA=0.139, t)+β 2(y CAP=4.926, t)+β 3(y FDI=0.653, t)+ β 4(y D=1.191, t)+β 5(y CRE=4.558, t)+ β 6(y NPL=0.777, t)+ β 7(y IIQ=0.954, t)+et. From the matrix of economic panel data, GDP or gross domestic product (in ppp or purchasing power parity) and global technological innovation index indicate that Germany and French are the core economic power in the EU with the Italy as a potential economic power. The gap between the strong and weak seems to be economically wide as what the prophecy says as a mixture of clay and iron.*

Keywords: CEP (core economic power), € (Euro currency), EU (European Union), GII (global innovation index), PEP (potential economic power), PM (peripheral member), MIPM (more innovative peripheral member).

Background of the Study

This study is based on the historical setting of how the prophet Daniel interpreted King Nebuchadnezzar's dream about a rock striking the 10 toes of the statue the latter saw in his dream (Daniel 2:31-35, NIV), which Pfandl (1996) described as the future coming of Jesus. The ten toes, made of a mixture of baked clay and iron, are widely interpreted as fragility, subject to possible disintegration. The above Bible verses have presented how the divided Roman Empire, as confirmed by White (2022), represented by the fourth kingdom in Daniel 2:40-41 (NIV), has evolved as the European countries nowadays. Souza (2020) reaffirms that the Seventh-day Adventists, as the remnant believers, always uphold the historicist method in the interpretation of Daniel and Revelation prophecies. The above Ellen G. White literature, specifically sought to interpret the biblical verses in Daniel 2 about the fragility of the feet and toes. And the econometric method is used to test the hypothesis of this fragility of the disintegration of the Roman Empire in the ancient time or European nations nowadays through the weakening economic indicators. The following Bible quotations are clearly describing them.

1. Daniel 2:40 (NIV): "*Finally, there will be a fourth kingdom, strong as iron – for iron breaks and smashes everything – and as iron breaks things to pieces, so it will crush and break all the others*."
2. Daniel 2:41 (NIV): "Just as you saw that the feet and toes were partly of baked clay and partly of iron, so this will be a divided kingdom; yet it will have some of the strength of iron in it, even as you saw iron mixed with clay."
3. Daniel 2:42 (NIV): *"As the toes were partly iron and partly clay, so this kingdom will be partly strong and partly brittle."*

This study used biblical history to interpret the future, particularly what God's people should do to prepare for Jesus Christ's second coming. Revelation 16:15 (NIV) clearly confirms it: "Behold, I come like a thief! Blessed is he who stays awake and keeps his clothes with him so that he may not go naked and be shamefully exposed." The interpretation of history is always linked with the signs of the times. White (1917), pertaining to this historicist method, said that the rise and fall of those empires in the past until what we know as the nations of Europe nowadays are dependent on the shaping of events with God's intervention. Shea (2005) mentioned that Daniel assured his readers that God stands behind all statements concerning the shaping of events and signs of the times. The study fundamentally sought to answer the following research questions:

1. As per what King Nebuchadnezzar saw in his dream in Daniel 2 (NIV), how did the European nations trace their ancestry?
2. How were the EU's member countries positioned in terms of their economic wealth and global innovation index (GII)?
3. How did the EU economic and debt crisis cointegrate with the slow GDP (ppp) growth, weakening balance of payments, rising sovereign debts and relatively poor banking performance, and welfare concerns of the people?

The only hypothesis (H0) to test was that the EU economic and debt crisis didn't cointegrate with the negative GDP (ppp) growth, weakening balance of payments, rising sovereign debts and relatively poor banking performance, and welfare concerns of the people.

The Metaphysis of Baked Clay and Iron Mixture

The metaphysics of the mixture of baked clay and iron describe the categories of the European Union (EU) potential disintegration. The category of potential disintegration metaphysically interprets Daniel 2:43 (NIV): "And just as you saw the iron, mixed with baked clay, so the people will be a mixture and will not remain united, any more than iron mixes with clay." It analyzes the EU's economic power category, the West and East origination of the EU members, and the overlapped institutions the members are working with. Ministerial Association (1969) takes note of Ellen G. White's comment that disagreement leads to an investigation and further study to find out the truth of these metaphysics. The metaphysical formation consists of the iron and clay, which are the parallels of the stronger EU core economic power (CEP) and weaker peripheral members (PM). The right and left feet are the parallels of the east and west EU member countries. And the improper mixture is a parallel of the conflict-prone set up of the EU. Refer to Figure 1.

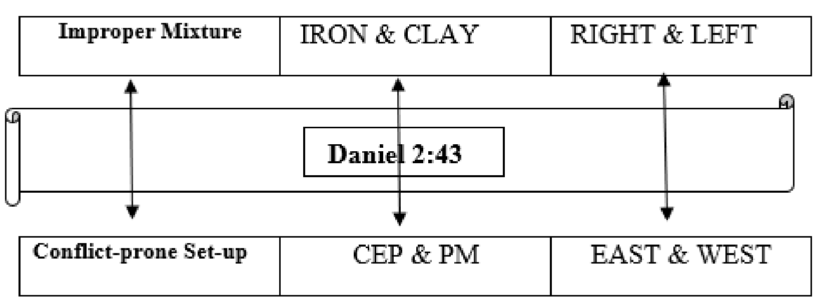

Figure 1. A simple religious metaphysic interpretation of Daniel 2:43

Parallelism of Iron and Clay (In Terms of Economic Power Category)

The European Union, with 27 member countries comprising of 446.8 million population with a GDP (ppp) of € 16,125 billion (USD 19,689 billion) as of 2020, is considered as a world economic power beside the United States (GDP in ppp = USD 20,933 billion), the beast of Revelation 13:11 (NIV)—"Then I saw another beast, coming out of the earth. He had two horns like a lamb, but he spoke like a dragon." The EU members differ in their economic power, in terms of their GDP (ppp) net of the respective sovereign debt, and GII (global innovation index) as of 2020. For example, Germany and France with a GDP (ppp) of more than € 1,850.5 billion and GII of above than 49.5, are in contrast comparison with the smaller ones like Cyprus (GDP = €4.0 billion, GII = 45.7) and Malta (GDP = € 11.0 billion, GII = 45.4). They indicate a wide difference between the iron (strong) and clay (fragile). These European powers and the beast of Revelation 13:1 and 11 (NIV), are even prophesized to lead in another world war, as Winston Churchill said to be an endless repetition of history (Flurry, 2002).

Right and Left (West and East Origination of the EU Members)

In terms of western and eastern geographical parts of Europe, the following 13 countries belong to the western parts of Europe: the PIIGS (Portugal, Italy, Ireland, Greece, and Spain), Belgium, France, Germany, Luxembourg, Netherlands, Denmark, Finland, and Sweden. The remaining as the eastern part of Europe are Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, Bulgaria, Romania, and Croatia. Austria (central Europe), Cyprus, and Malta belong to the Mediterranean parts of Europe.

Information and communication technology skills.

Parts of the metaphysics of improper mixture consist of those conflict-prone EU member countries. First, Potts et al. (2016) mentioned EU members with a history of conflict in the past (Cyprus against Germany, Portugal against Sweden, Spain against Denmark, Ireland against Bulgaria, Poland against Italy, and Lithuania against France). Second, there are member countries that belong to some international agreements or associations overlapping with those not registered with the EU, such as Schengen agreement, European Monetary Union (EMU), and the European Union Custom Union (EUCU). This evidence gives rise to the metaphysics of improper chemistry of the feet and toes. Here are examples of the evidences:

- EMS (European Monetary System): Even though there are 27 EU's members as of 2021, not all are using the same common € currency as the legal tender. Only nineteen members use the currency and they belong to the Eurozone. The eight EU members (Denmark, Sweden, Czechia, Hungary, Poland, Bulgaria, Romania, and Croatia) do not belong to the Eurozone, because they are still using their own currencies, other than the €. This alone poses a risk of a future monetary disagreement like in the case of the EMS (European Monetary System)'s failure in 1999 (Hopner & Spielau, 2017). After the 1999, EMS had been transformed into the EMU (Economic and Monetary Union). Potential disintegration may arise from any disagreement on multilateral monetary policy issues.

- <u>Schengen Agreements:</u> Not all members belong to the Schengen Agreement classification. The Schengen Agreement, signed on June 14, 1985, is one of the EU's major achievements because it allows freedom of movement of people, trades, and capital. In spite of these achievements, Coelho (2018) strongly affirmed that this agreement, effective the year 2015, encountered a border control problems due to the influx of refugees and terrorists in Europe. Potential disintegration may arise from any disagreement on these cross-border issues and rescind the Schengen agreements.
- <u>EUCU (European Union Custom Union):</u> It consists of all EU members, plus Monaco and two British Overseas Territories, Akrotiri and Dhekelia. The latter do not belong to the EU. Potential disintegration within the EUCU might occur in the future, particularly due to misunderstanding on custom duties and taxes implementation.

Gross and Bimbaum (2017) commented an interesting point of mixing chemical compounds that are subject to risk to the chemistry process. The mixture of baked clay and iron seems to give rise to this risky factor of the mixture. The ramification of the EU's structure, which reflects fragmentation, is shown in Figure 2 below. As His followers, we are obliged to discern the improper chemistry of this prophecy in the realm of bearing His testimony through the medium of the prophetic gift (White, 1957).

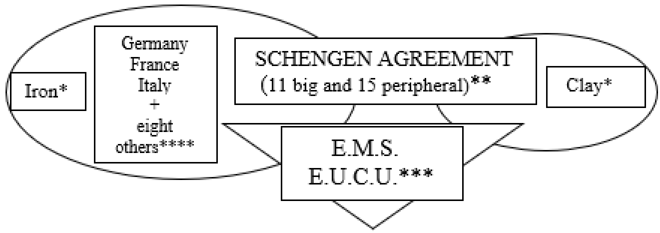

Figure 2. Fragmented interaction among the EU and non-EU members.
*GDP (ppp) of > € 1.85 trillion as stronger (iron), and peripherals (clay)
**Total 26 Schengen European countries (as of 2021): 22 EU + 4 non-EU (Iceland, Liechtenstein, Norway, and Switzerland)
***European Monetary System (EMS) and European Union Custom Union (EUCU)
****They are Belgium, Luxembourg, Netherland, Denmark, Ireland, Austria, Finland, and Sweden (refer to the 4-quadrant matrix)

The interaction of those institutions within the EU gives rise to an indication of EU fragmentation, particularly in the Eurozone crises. Podkaminer (2020b) argued that increasing international trades do not guarantee the realization of a positive balance of payment imbalances and the standard of living of the people. Ross (2020) evaluated the probability of how the declining economic and banking performance, as well as the Eurozone debt levels, might affect the 26 Schengen-member countries in a vicious triangle; e.i. the collapse of the Euro (€) and the EU itself, as well as the failure of its democracy. He mentioned the probabilities of these countries to abandon the € as the EU's legal tender and return to their monetary and fiscal policies, which will cause a disintegration of the EU (Podkaminer, 2020a). The following are the relevant biblical verses that interpret the improper chemistry leading to disintegration. They mention intrigue, disunity, guilt, and great distress as additional traits of the disintegration.

Underlying Theories and Conceptual Framework of the Study

The several hegemonies of the Roman Empire had ensued, evolved and culminated into the European nations nowadays. The EU or European Union represents this continent. The study focuses on its current economic and debt crises as the potential disintegration of the union.

Underlying Theories

Theories underlying the potential economic factors leading to Europe's indicative disintegration explain how the concepts work toward the weakening process of the union. Vollard (2019) described the EU potential disintegration as caused among others by the Eurozone economic and debt crises. He classified these crises as weakening BOP (balance of payment) and slow GDP (ppp) growth, rising sovereign debt, and unemployment leading to income inequality. In addition, the failure to ratify EU constitutional treaty in France and Netherlands, Brexit last 2020, Ukraine's occupation by Russia and Syrian refugee crisis, were also contributors to its potential disintegration.

Table 1
Underlying Theories on EU's Economic Factors Leading to Potential Disintegration

Economic Theory	Year	Economist	Linkage With E.U.
Keynesian multiplier effect	1931	Richard Kahn	Weakening BOP
Free-market economy	1930	John M. Keynes	Slow GDP (ppp) growth
Institutionalism and banking	1915	Thorstein Veblen	Rising sovereign debts
Permanent income hypothesis	1957	Milton Friedman	Income inequality
Lorenz curve	1905	Max Lorenz	Income inequality

Weakening BOP and Slow GDP (ppp) Growth. Gomes, L. (1993) presented the Keynesian multiplier theory of using the exchange rate system, in the EU's case the currency €, to manage BOP to the extent of weakening or strengthening status. Das (2016) evaluated the determinants of current account imbalances and found out that they depended on the net foreign assets, trade openness, and exchange rate stability. Trade openness seemed to be the main driver for the EU's slow current account growth from the three, which Johnson (1977) argued may head for the fragmentation of EU's monetary position. He mentioned the example of how Bretton Woods' fixed but flexible exchange rate collapsed and declared non-operational when President Richard Nixon of the USA froze the gold system. Balance of payments problem may lead further to monetary chaos. An identical study on these determinants revealed that the degree of cointegration among current account transactions, fiscal balance, financial development, and trade openness indicated a strong relationship (Sadiku et al., 2015). EU apparently performed trade openness among its members successfully (trading among themselves), even though they implemented the beggar-thy-neighbor policies. It was obvious with Germany and France, the most dominant exporters and importers. Adam (2021) explained the beggar-thy-neighbor policy as the term used by Adam Smith in his book, Wealth of the Nations, which he mostly referred to as protectionism, where importers impose high tariffs for exporters' commodities (exporter is begging the importer for a lower tariff).

Rising sovereign debts and depressed banking performance. After the US financial crisis in 2008, the EU struggled with its economic performance in a decade, especially with the presence of the covid-19 pandemic. National debts rose and the banking system did not perform well as NPLs (non-performing loans) fluctuated and increased. Aybarc (2019) cited the classical and neo-classical economic motivation for borrowing, which all argued that public borrowing brought the debt-interest cycle, poverty, and crises, which the EU indicated through increased NPLs and debt/GDP rate. Werner (2016) evaluated Veblen's debt and banking theories as a development agent for the people. Based on a debtor's capital adequacy, the theories of financial institution intermediary, the bank system, and the reserve system to the central bank create credits for the economy, as also confirmed by Raines and Leathers (1992). They all mentioned that non-compliance to good governance would lead to possible fragmentation. In the case of the EU, this credit creation system has caused increasing NPLs growth.

Increasing unemployment and income inequality growth. Based on Milton Friedman's theory on permanent hypothesis and Max Lorenzo's on the Lorenz Curve, EU's income of the people indicated growth of wider gaps between those high and low-income brackets in the past decade (Jianu et al., 2021). Atkinson (2013) recommended an economic analysis to study inequality for a solution. They all argued that income inequality will always lead toward imbalance welfare of the people and nation as a whole. It definitely leads toward possible disintegration. Salverda (2015) even recommended the EU financial authority to formulate and implement income redistribution and equalization programs to reduce income inequality.

Conceptual Framework

Based on the theories, the conceptual framework presents how several factors have possibly affected EU disintegration. The EU economic and debt crisis are caused by the slow GDP (ppp) growth, weakening BOP (CA = current account/GDP, CAP = capital formation/GDP, and FDI = foreign direct investment as % GDP), welfare concerns (UN = unemployment %, IIQ = income inequality %), rising sovereign debts and relatively poor banking performance (D = sovereign debt/GDP, CRE = credit growth %, NPL = non-performing loan %). Refer to Figure 3.

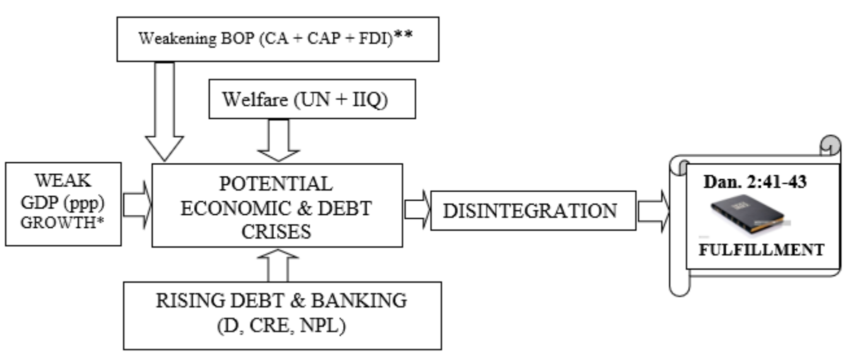

Figure 3. Conceptual framework of the study.

Research Methodology

The study interprets the intensity of the cointegration of the European Union's potential disintegration indicators, which is the main problem of the study. The study made use of the time series panel data from the year 1990 to 2020. These data were gathered from KNOEMA and MUNDHI-INDEX statistics, European Central Bank (ECB), and the International Monetary Fund (IMF) statistics for validation purposes.

Research Analysis

The first research question used the biblical interpretation using Ellen G. White writings, the 28 Fundamental SDA Doctrines, and other journal articles. The second research question used a matrix positioning (x axis = GDP in ppp in terms of billion €; and y axis = the Global Innovation Index or GII). The time series cointegration was specifically used to answer the third research question. It aims to test the cointegration of the EU's GDP (ppp) and the other negative economic GDP growth, rising sovereign debt, weakening banking system's performance, and wider gap of income inequality. Heimberger, P. (2020) reinforced the phenomenon of European income inequality as caused by imprudent fiscal, wage and industrial policies. As Johansen et al. (2000) argued, the cointegration analysis of the macroeconomic panel data always allow for structural breaks leading to the unit roots, optimality of lags, and the entire cointegration toward the equilibrium of the equations. The cointegration of EU members' potential disintegration, which Markakis (2020) had inspired as the evaluation of the Eurozone crisis, Brexit, and other economic irregularities, would prove the indication of fragility of the ten toes of the image seen by Nebuchadnezzar. The study was inspired by his analysis giving rise to the possible realization of fragility of the EU member countries. The method is presented on Figure 4.

y (EU's GDP, t) = a_0+β1(y CA, t)+β 2(y CAP, t)+β 3(y FDI variable, t)+ β 4(y D, t)+β 5(y CRE, t)+ β 6(y NPL, t)+ β 7(y IIQ, t)+et

where,
a_0 = Constant vector
t = Related time (where lag comes from)
GDP = Gross domestic product of the EU countries
CA = Current account
CAP = Domestic capital formation
FDI = Foreign direct investment
D = Domestic investment
CRE = Credit allocation to the EU economies
NPL = Non-performing loans
IIQ = Income inequality (gap between high and low brackets)
et = Error term of the regression

Time series of the above variables will be tested in terms of their unit root before the process of testing the cointegration's H0 and Ha takes place. As part of the VAR (vector autoregression) the trace and eigenvalue tests shall be performed afterward. They are the VAR's inferential likelihood ratio variants.

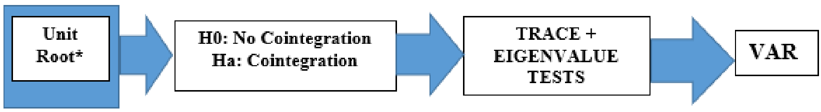

Figure 4. *Priority Steps in Co-Integration Statistics for Achieving Stable Long-term Equilibrium *Including determination of optimal lag.**Vector autoregressive or VAR for long-range equilibrium.*

Research Literature Gap

Literature on the fragility of the mixture of baked clay and iron of the Nebuchadnezzar's image by combining the econometric analysis and biblical interpretation seems to be relatively scarce even in the internet. It is therefore the objective of the study to test the disintegration indication of the European countries as represented by the ten toes of the image. The following is a presentation of the results of this study.

Right and Left (West and East Origination of the EU Members

The modern-day Europe was traced back to the last empire seen by King Nebuchadnezzar in his dream in Daniel 2:40, the fourth kingdom, which was the Roman Empire. Refer to Figure 5. Through the various hegemonies, the empire had apparently evolved into modern-day Europe. With the mercantilism economic concept application, a strong nation, like the Roman Empire, colonized and procured natural and labor resources from the colonies during the 16th to 18th centuries. It was how the kingdom grew into many colonies.

The study evaluated the origination root of Europe with a special emphasis on what Ellen G. White (1909) interpreted as the root of the fourth kingdom seen by King Nebuchadnezzar, which Ballinger (2012) said was successfully expanded into many colonies. He commended the mercantilist policies as the success factor for expansion. Sharp (2021) reaffirmed that these colonies, after a long process of evolvement, had turned into the 10 nations, which he said together with the Roman papacy must be there until the end of the world (Revelation 17:13, NIV). After the three plucked-off first horns (Daniel 7:8, NIV), the remaining seven are Britain (the Saxons), France (the Franks), Germany (the Alemanni), Switzerland (the Burgundians), Spain (the Visigoths), Portugal (the Suevi), and Italy (the Lombards). According to him, the three uprooted horns were the Vandals with Carthage as its capital city, the Heruli and Ostrogoths, originally occupying Italy.

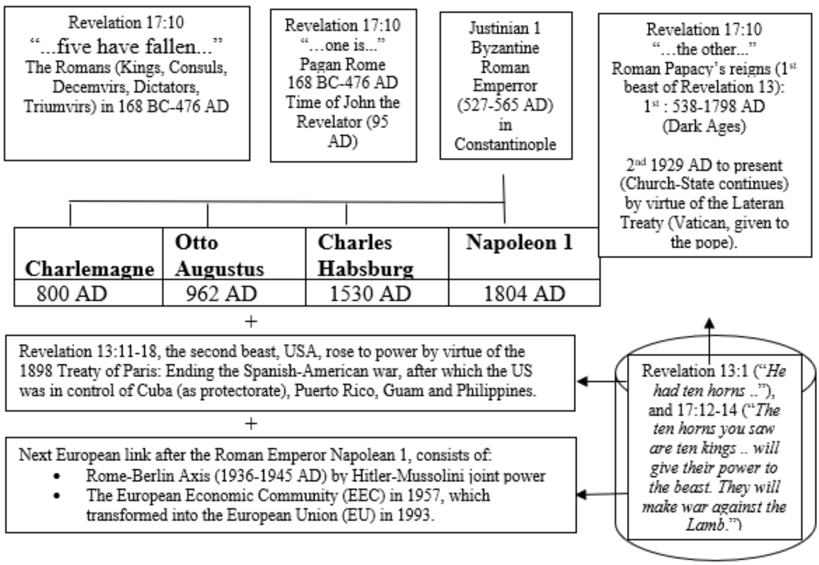

Figure 5. Prophesied revivals of the Roman Empire into Europe today (the ten toes of Daniel 2).

The answer to the first research question specifically begins with the overall picture of what King Nebuchadnezzar saw in his dream. "This calls for a mind with wisdom. The seven heads are seven hills on which the woman sits. They are also seven kings. Five have fallen, one is, the other has not yet come, but when he does come, he must remain for a little while. Smith (2021) obviously interpreted the seven heads in Revelation 12, 13, and 17 as the seven forms of government, five of which have fallen, one is, and other yet to come. He particularly mentioned the Roman Empire as the "one is" as the government existed in the John the Revelator time. Finley (2021) clearly presented in his video how the Roman Empire has evolved into what we know as Europe nowadays.

Five have fallen. Smith (2021) clearly referred to the five forms of government within the Roman Empire. They are the kings (ruler by inheritance), consuls (rulers assigned in Roman colonies), decemvirs (ruler/s of permanent board of ten in ancient Rome), **dictators** (one-man ruler with absolute control), and triumvirs (three-ruler government) of the Romans, which all governed before the rulers are emperors during the period 168 BC – 476 AD.

One is. Second, the "one is," as mentioned by the Spirit of Prophecy, referred to the Roman Empire, the earlier mentioned fourth kingdom, "one is." The sixth was then reigning. The time of the sixth Ellen G. White mentioned corresponded to the time when John the Revelator lived during the Roman Empire hegemony. After several wars, the pagan Roman Empire was defeated by the barbarians and collapsed in 476 AD, which John the Revelator biblically wrote as the first wound

(Revelation 13:3, NIV): "One of the heads of the beast seemed to have had a fatal wound, but the fatal wound had been healed." The first wound of this beast had healed in the year 538 AD, when the next Roman ruler (the Pope) governed and oppressed Christians in the period of dark ages (538-1798 AD).

The other has not yet come. Third, "the other has not yet come" referred to the first beast of Revelation 13:1-2, which is the Roman papacy. In the year 538AD, this beast ascended as the governing pope (Pope Vigilius) in Constantinople under the military protection of Belisarius (Schaff, 2002). Ahn et al. (2017) clearly stated that when Emperor Justinian granted Pope Vigilius to rule the Roman papacy in Constantinople in 538AD, it was the healing of the wound. Bollman (2008) stated that 538-1798AD, or 1260 years, is the beginning era of Christian persecution, as the first beast of Revelation 13:1 committed against the Most High. Daniel 7:25 (NIV) states, "He will speak against the Most-High and oppress his saints and try to change the set times and the laws. The saints will be handed over to him for a time, times and half a time." The saints, who were faithful Christians, were persecuted 3 ½ times (time + 2 times + ½ a time), or 1260 years (3 ½ times 360 days in a year), under this beast of Revelation 13:1 or the Roman papacy. The beast did not allow the saints to possess and read the Holy Bible during the 1260 years. They were burned to death or fed to the lions.

Who once was, and now is not, is an eight king. In addition to the above three phases of Revelation 17:10, Revelation 17:11(NIV)—"The beast who once was, and now is not, is an eighth king. He belongs to the seven and is going to his destruction"—must lead to the understanding that the Roman papacy is the eighth king. This first beast of Revelation 13:1-2 regained its hegemony in 1929, when the Lateran Treaty between the Italian prime minister, Benito Mussolini and Bishop Gaspari (on behalf of Pope Pius XI), was signed (Ministerial Association, 1988). Passey (2019) confirmed that this hegemony is a church-state kind of government.

The **finding** of the first question seemed to focus on the Roman Empire, which was defeated by the barbarians and divided into the fragile ten kings. These ten kings, three of them earlier plucked off (Vandals, Heruli and Ostrogoth), have clearly evolved into what we nowadays know as the European nations. The implication of this finding is the need for understanding that the European nations will definitely join forces with the beast of Revelation 13:1 and 10, as the fulfillment of the Daniel & Revelation prophecy.

Research Question 2: EU's Positioning by Economic Power Category and Global Innovation Index (GII)

The earlier discussion on the potential causes of disintegration reflects the extent of how fragmentation will occur in the future. The EU member countries' economic power category (wealth in terms of the GDP in ppp, excluding sovereign debt) and their GII have positioned the EU member countries in a four-quadrant matrix. The methodology describes how the 4-quadrant matrix evaluates the EU member countries' position based on the economic data shown in Appendix A.

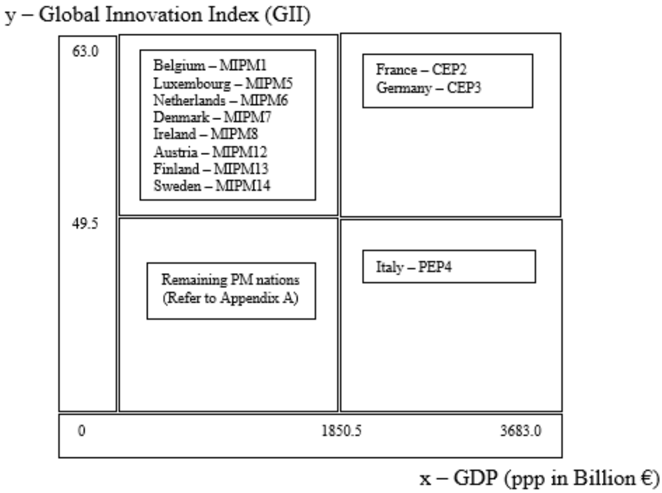

Figure 6. European Union (EU) economic power positioning (as of 2020).

Note: *CEP = core economic power in EU: (x,y) = (>1850.5,>49.5). PEP = potential economic power in EU: (x,y) = (>1850.5, <49.5). PM = peripheral member: (x,y) = (<1850.5,<49.5). MIPM = more innovative peripheral member: (x,y) = (<1850.5, >49.5).*

The earlier discussion on the potential causes of disintegration reflects the extent of how fragmentation will occur in the future. The EU member countries' economic power category (wealth in terms of the GDP in ppp, excluding sovereign debt) and their GII have positioned the EU member countries in a four-quadrant matrix. The methodology describes how the 4-quadrant matrix evaluates the EU member countries' position based on the economic data shown in Appendix A.

- First, peripheral members contributed a smaller national budget than what they spent; i.e., Belgium's budget contribution was € 3.840 billion, but its actual allocation was € 8.514 billion. It reflected how core and potential economic power countries supported the peripheral members, which were very much criticized as the beggar-thy-neighbor policy, an outlawed mercantilist wage policy (Bluwstein & Canova, 2016). The EU Secretariat of Fiscal Board (2019) mentioned it as a policy that is not simplified and transparent for the EU to implement because it has a connotation of protectionism.
- Second, the few large member countries like Germany and France dominated the export destinations, import sources, and trading practices, mentioned as not reflecting healthy productivity performance.

Finding of the matrix positioning resulted in Germany and French as the CEP, with Italy as the PEP or potential economic power, leaving Belgium, Luxembourg, Netherlands, Denmark, Ireland, Austria, Finland, and Sweden, as the MIMP or the more innovative peripheral members. The implication of this finding is focused on the need for monitoring the economic progress of these countries' union as they are heading toward even worse fragmentation, when the beast of Revelation 13 will become even stronger allies of these European countries. As God's children, we believe that the prophecy will definitely come to pass.

Research Question 3: Cointegration of EU's Potential Disintegration

The cointegration of the EU potential disintegration, seeking to prove the fragility of the mixture of baked clay and iron in Daniel 2, presents the unit roots test result as a proof of time series stationarity, optimality of lag, Granger-causality test result, and cointegration to prove the goodness-and-fit of the time series predictors. The crises of negative BOP positions, rising sovereign debts (the total sovereign debts of the 27 EU members amounted to € 12,305 billion as of 2020, or representing some 76.3% from the EU's GDP of € 16,125 billion), and the welfare of the Europeans at large (increase of unemployment growth and income inequality growth of -92.5% and -5.3%, respectively), all confirm the fragile mixture of baked clay and iron of the image's toes.

Table 2
Unit Root Test, Optimal Lag, and Granger-causality of EU Potential Disintegration

INDICATORS	CODE	ADF*	p	GRANGER CAUSALITY F-value	p	CAUSES
Output (GDP) growth	INC	-3.925	0.006	n/a	n/a	n/a
Current account/GDP	CA	-4.863	0.000	6.039	0.022	Sovereign debt
				4.365	0.048	Inc. inequality
Capital formation	CAP	-5.781	0.000	10.908	0.003	GDP growth
				9.367	0.006	Unemployment
F.D.I.	FDI	-3.508	0.016	10.817	0.003	Domestic cap.
Sovereign debts	D	-5.569	0.000	n/a	n/a	n/a
Credits	CRE	-3.759	0.009	n/a	n/a	n/a
Non-performing loan	NPL	-4.608	0.001	n/a	n/a	n/a
Unemployment	UN	-5.173	0.000	n/a	n/a	n/a
Income in-equality	IIQ	-5.324	0.000	6.867	0.015	Credits

**At levels with a significance of 0.05, the data series belong to the I (0) or no unit roots.*

The strongest among the cointegration were the rising sovereign debts. The EU members, which incurred the largest portion of sovereign debts as of 2020, following the order of (rank, € billion, % of total sovereign debts as of 2020), are France (1, € 2,650 billion, 21.5%), Italy (2, € 2,573 billion, 20.9%), Germany (3, € 2,325 billion, 18.9%), Spain (4, € 1,346 billion, 10.9%), Belgium (5, € 515 billion, 4.2%), Netherland (6, € 435 billion, 3.5%), Greece (7, € 341 billion, 2.8%), Austria (8, € 315 billion, 2.6%), Poland (9, € 293 billion, 2.4%), and Portugal (10, € 270 billion, 2.2%). The evidence is presented in Table 2, which shows that all p-values are less than the 0.05 level of significance. It indicated that all data series belonged to the I (levels), not even I (1), or with one lag.

Unit root test. The Augmented Dickey-Fuller or ADF test examined the stationarity of the individual potential disintegration indicators. The unit root test indicated that all indicators must reject the H0 (there was a unit root in all potential disintegration indicators) at a 0.05 level of significance. The series of unit roots proved that there was a strong cointegration in all potential disintegration indicators because of the integrated order levels or I (levels). The strongest indicators for stationarity were the current account/GDP (CA), capital formation (CAP), unemployment (UN), and income inequality (IIQ), all at p = 0.000.

Optimal lag selection. The appropriate lag selection used the Akaike information criterion (AIC), which apparently determined a lag of 1. It is generally an estimate of the lag length for the vector auto regression or VAR models in levels, and not even at first difference.

Table 3

Johansen Co-integration and Normalized Co-integrating Coefficient (cc)

	NORMALIZED cc*			T R A C E**			EIGENVALUE**		
DESCRIPTION	Code	Coeff.	Std. Error	Statistic	t-value	p	Statistic	t-value	p
None				296.14	159.53	0.000	107.98	52.36	0.000
At most 1				188.16	125.62	0.000	81.34	46.23	0.000
At most 2				106.82	95.75	0.007	n/a	n/a	n/a
At most 3				71.52	69.82	0.036	n/a	n/a	n/a
GDP growth %	INC	1	n/a						
Current accounts/GDP	CA	-0.139	0.037						
Capital formation	CAP	-4.926	0.211						
Foreign direct invest	FDI	-0.653	0.059						
Sovereignty debts	D	1.191	0.22						
Credits allocation	CRE	-4.558	0.175						
Non-performing loan	NPL	-0.777	0.058						
Income inequality	IIQ	-0.954	0.222						

**Cointegrating coefficients of the normalized equilibrium. **Square matrix of row and column*

Granger-causality. In order to create VAR models with (p + 1) lags and test the Granger-causality, Table 2 shows evidence that CA Granger-caused D (sovereign debts) and income inequality at p = 0.022 and p = 0.048, respectively, while CAP Granger-caused INC (GDP growth) and UN (unemployment) at p = 0.003 and p = 0.006 respectively.

Cointegration of the economic and debt indicators. Co-integration of the economic and debt indicators would include the Johansen cointegration test and hypothesized co-integrating VAR or vector auto-regression.

First, the unit root tests mentioned earlier seemed to indicate that the main variables of CA and CAP belonged to integrated order levels or I (levels). It means that all EU's potential disintegration indicators show a strong cointegration to say that the statue's feet and toes in Daniel 2 reflect potential disintegration. Second, the trace statistics of Johansen cointegration test showed strong numbers of cointegration as the hypothesized numbers are all < than 0.05. None, at most 1, 2 and 3 derived significance values of 0.000, 0.000, 0.007, and 0.036, respectively. Even the eigenvalue statistics also showed the same, but only up to at most 1 cointegration level. Third, in the long-run current accounts/GDP (cc = -0.139), domestic capital formation (cc = -4.926), FDIs (cc = 0.653), credits (cc = -4.558), NPLs (cc = 0.777), and income inequality (cc = -0.954) have a positive impact, while the sovereignty debt accumulation has a negative impact, on the EU's output growth in the past decade (2009-2020). Refer to Table 3.

The **finding** of the third question focused on the stationarity of the time series of all variables. In this case the variables were comprised of the GDP (ppp) and the behavior of the economic crisis and rising sovereign debts of the EU behaved in terms of cointegration. The fragile mixture of baked clay and iron of the image seen by Nebuchadnezzar seemed to be successfully tested econometrically. There was a strong cointegration of all variables to prove the possible economic disintegration of the European countries on and before the second coming of Jesus as prophesized. The implication of this finding is the need to prepare for the second coming of Jesus as the EU economic performance has been showing serious downturns toward the fulfillment of Daniel 2 prophecy that a stronger alliance with the beast of Revelation 13 will be apparently fulfilled.

Summary of Interpretative Findings and Conclusion

The study came up with the summary of interpretative findings of the combination of the biblical and econometric analysis of the prophecy. They include the implications of the interpretative findings, earlier presented in each discussion. The conclusion basically summarized the cointegration test of the EU economic and debt crisis as an indication of fragmentation or potential disintegration in the Nebuchadnezzar's dream in Daniel 2.

Interpretative Findings

1. **The root of modern-day Europe nowadays**. After the hegemonies of the Babylon, Mede and Persia, and Greece kingdoms, the fourth kingdom, the Roman Empire, continued to evolve into what we know as Europe nowadays.
   - In the study, EU represents the root of the Roman empire, which according to Daniel's interpretation, its feet and toes, represent the strong (iron) and fragile (baked clay) member countries according to Daniel 2:36-45 (NIV).
   - John the Revelator explained the process better in Revelation 17:11-12. "*Five have fallen [the five Roman rulers:* Kings, Consuls, Decemvirs, Dictators, and Triumvirs *], one is [pagan Roman emperors: August Caesor as the first emperor in 27 BC], the other has not yet come [Roman papacy, the beast of Revelation 13:1, who ruled in the dark ages, 538-1798 AD], but when he does come, he must remain for a little while. The beast who once was, and now is not, is an eighth king [the return of the Roman Papacy: Since the Lateran Treaty was signed in 1929 to the present time]. He belongs to the seven and is going to his destruction*."
2. **The four-quadrant positioning of the EU's member countries**. Out of the 27 EU members as of 2020, there are two core economic powers (Germany and French), one potential economic power (Italy), eight more innovative peripheral members (Luxembourg, Netherland, Denmark, Ireland, Austria, Finland, and Sweden), and sixteen peripheral members (refer to Appendix A).

3. **Co-integration of the EU's potential disintegration**. The study, which sought to test the fragile mixture of iron and baked clay of the statue's feet and toes in the prophecy of Daniel 2, has proven correct. The EU's member countries, representing the feet and toes, are indeed comprised of 11 stronger nations and sixteen weaker nations. The H0 was rejected proving that the cointegration of the EU's potential disintegration was strong. This particular finding has particularly given rise to the following specific sub-findings:
    - The EU negative current accounts had indeed Granger-caused the rising sovereign debts, and wider income inequality gap of the European people.
    - The downturns in the EU's capital formation had also Granger-caused the negative GDP (ppp) growth and rising unemployment, which leads to wider income inequality.

Conclusion

Based on the interpretative findings, and as the prophecy in Daniel 2:43 (NIV) said: "And just as you saw the iron mixed with baked clay, so the people will be a mixture and will not remain united, any more than iron mixes with clay"—the study concluded that the negative GDP (ppp) growth of the EU member countries had indicated a strong cointegration in the fragmented economic performance caused by the negative GDP growth and rising sovereignty debts (even prior to the covid-19 pandemic crisis), not to mention the wide gap between the stronger and weaker nations. The strong cointegration of the EU's potential disintegration has indeed tested the metaphysics of the iron (strong) and baked clay (fragile) parts of the feet and toes as potential factors for disintegration.

References

Adam, H. (2021). Beggar-thy-neighbor. *Investopedia*. https://www.investopedia.com/terms/b/beggarthyneighbor.asp

Ahn, K. Y., Damsteegt, G., de Kock, E. Kim, S. Y., Kwon, J. H., Lee, M. J., Miller, N., Nam, D.

G., O'Reggio, T., Shea, W. H., Treiyer, A. R., & Wyk, K. J. V. (2017). 538 A.D. and the transition from pagan Roman empire to holy Roman empire: Justinian's metamorphosis from chief of staff to theologian. *International Journal Humanities and Social Science*, *7*(1), 62. https://www.ijhssnet.com/*journals*/Vol_7_No_1_January _2017/7.pdf

Atkinson, A. B. (2013). Reducing income inequality in Europe. *IZA Journal of European Labor Studies*, *2*(12). https://izajoels.springeropen.com/articles/10.1186/2193-9012-2-12

Aybarc, S. (2019). Theory of public debt and current reflections. *Open-access peer-reviewed chapter*. https://www.intechopen.com/chapters/65684

Baldwin, R. E., & Evenett, S. J. (2012). Beggar-thy-neighbor policies during the crisis era:

Causes, constraints and lessons for maintaining open borders. *Oxford Review of Economic Policy Journal*, *28*(2), 211-234. https://www.jstor.org/stable/43741294

Ballinger, P. (2012). Mercantilism and the Rise of the West: Towards A Geography of Mercantilism. *Working Copy 2011*, p. 9.

Bluwstein, K., & Canova, F. (2016). Neighbor-thy-neighbor? The international effects of ECB unconventional monetary policy measures. *International Journal of Central Banking*, *12*(3), 74-75. https://www.ijcb.org/journal/ijcb16q3a2.pdf

Bollman, C. P. (2008). Why the year 538? *Ministry: International Journal for Pastors*, *4*(8). https://www.ministrymagazine.org/archive/1931/08/why-the-year-538

Coelho, C. (2018). Schengen: What issues affect the border-free zone? *EU News European Parliament, May 29, 2018 issue* (updated on June 4, 2020). https://www.europarl.europa.eu/news/en/headlines/eu- affairs/20180525STO04311/schengen-what-issues-affect-the-border-free-zone

Das, D. (2016). Determinants of current account imbalance in the global economy: A dynamic panel analysis. *Journal of Economic Structures*, *5*(8). https://journalofeconomicstructures.springeropen.com/articles/10.1186/s40008-016-0039-6

Economist (2020). Germany is doomed to lead Europe. *The Economist*. https://www.economist.com/europe/2020/06/25/germany-is-doomed-to-lead-europe

Finley, M. (2021). The little-known truth of Revelation 17 [Youtube video presentation]. https://youtu.be/wWOVibbfc2E

Flurry, G. (2002). Mixing iron and clay. *The Trumpet open access publication.* https://www.thetrumpet.com/709-mixing-iron-and-clay

Gomes, L. (1993). Keynesian and Temporary Balance of Payments Models. *Springer Link* open source publication. https://link.springer.com/chapter/10.1057/9780230375420_5

Gross, L., & Bimbaum, L. S. (2017). Regulating toxic chemical for public and environmental health. *Plos Biology, 16* (1). https://journals.plos.org/plosbiology/article?id=10.1371 /journal.pbio.2004814

Heimberger, P. (2020). Ensuring long-term convergence and stability in the EU will require coordinated fiscal, wage & industrial policies. *Wiever Institut fur Internationale Wirtschaftsvergleiche open-sources journal*, February 5, 2020. https://wiiw.ac.at /convergence-or-disintegration-of-eu-countries-n-424.html

Hopner, M. and Spielau, A. (2018). Better than Euro? The European Monetary System. *New Political Economy*, *23*(2). https://www.tandfonline.com/doi/full/10.1080/13563467 .2017.1370443

Jianu, I., Dinu, M., Huru, D., & Bodislav, A. (2021). Examining the relationship between income inequality and growth from the perspective of the EU member states' stage of development. *Sustainability 2021, 13*, 5204. https://www.mdpi.com/journal/sustainability

Johansen, S., Mosconi, R., & Nielsen, B. (2002). Cointegration analysis in the presence of structural breaks in the deterministic trend. *The Econometrics Journal, 3*(2), 216-249. https://doi.org/10.1111/1368-423X.00047

Johnson, H. G. (1977). Money, Balance of Payments Theory, and the Monetary Problem. *US, Princeton University Essay in International Finance*, 9. https://ies.princeton .edu/pdf/E124.pdf

Ministerial Association. (1988). *Seventh-day Adventists believe*: *A biblical exposition of 27fundamental doctrines.* Washington, DC: Review and Herald.

Ministerial Association. (1969). *Philosophy of inspiration in the writings of Ellen G. White* https://www.ministrymagazine.org/archive/1969/01/philosophy-of-inspiration-in-the-writings-of-ellen-g.-white-part-1

Markakis, M. (2020). Differentiated integration and disintegration in the EU: Brexit, the Eurozone crisis, and other troubles. *Journal of International Economic Law, 23*(2), 489-507. https://academic.oup.com/jiel/article/23/2/489/5874723

Passey, B. (2019). How the Pope played politics. *Journal for Scholarly Historical Writing, 4*(1), 6. https://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=1022&context=thetean

Pfandl, G. (1996). Interpretations of the Kingdom of God in Daniel 2:44. *Andrew University Seminary Studies, 34* (2), 257. https://digitalcommons.andrews.edu/cgi/viewcontent .cgi?article=2257&context=auss

Podkaminer, L. (2020a). Economic disintegration of the European Union: Not unavoidable, but probable. *Research Gate pdf*, 5. https://www.nbp.pl/badania/seminaria/17xi2017-1.pdf

Podkaminer, L. (2020b). Does trade support global output growth? Further evidence on the global trade global output connection. *Bank i Kredyt Journal, 52*(1), 23-36. https://bankikredyt.nbp.pl/content/2021/01/BIK_01_2021_02.pdf

Potts, J. C., Cleaver-Bartholomew, A., & Hughes, I. (2016). Comparing the roots of conflict in Europe, Middle East and Africa. *Inquirers Journal, 8*(4), 2. http://www.inquiriesjournal.com/articles/1390/2/comparing-the-roots-of-conflict-in-europe-the-middle-east-and-africa

Raines, J. P., & Leathers, C. G. (1992). Financial innovations and Veblen's theory on financial markets. *Journal of Economic Issues*, *26*(2), 433. https://www.tandfonline.com/doi/abs/10.1080/00213624.1992.11505302

Ross, S. (2020). Here's what will happen if the Euro fails. *Investopedia*, August 19, 2021. https://www.investopedia.com/articles/markets/

Sadiku, L., Fetahi-Vehapi, M., Sadiku, M., & Berisha, N. (2015). The persistence and determinants of current account deficits of FYROM: An empirical analysis. *Procedia Economics and Finance, 33*, 97. https://pdf.sciencedirectassets.com /282136/1-s2.0-S2212567115X00165/1-s2.0-

Salverda, W. (2015). EU policy making and growing inequalities. European commission working paper. *IDEAS* open-source publication. https://ec.europa.eu/info/sites/default/files/dp008_en.pdf

Schaff, P. (2002). History of the Christian church (Vol 3). *Electronic Bible Society.* http://www.ccel.org/ccel/schaff/hcc3.html

Secretariat of Fiscal Board. (2019). Assessment of EU fiscal rules: Six and two-pack legislation. *EU Commission* open source publication. https://ec.europa.eu/european-fiscal-board

Sharp, P. (2021). Western Europe: Convergence and Divergence. *Cambridge Core open-source publication, Ch. 2*, June 3, 2021. https://www.cambridge.org/core/books/abs/cambridge-economic-history-of-the-modern-world/westerneurope/16364E09AB0AA30A47935B899E197FFB

Shea, W. H. (2005). *Daniel: A reader's guide*. https://www.amazon.com/Daniel-Readers-William-H-Shea/dp/0816320772

Smith, U. (2021). The seven heads of Revelation 12, 13 and 17. *EGW Writings – Bible Institute*. https://m.egwwritings.org/en/book/1411.2

Souza, E. B. (2020). Daniel: Adult Sabbath school, *Bible Study Guide*, 1st and 2nd quarters, 2020 (January, February, March), p. 299. https://ssnet.org/study-guides/lesson-archives/2020-2029/2020-q1-daniel/

Vollard, H. (2019). European disintegration: A search for explanation. *Europe Now, Council for European Studies*. https://www.europenowjournal.org /2019/05/06 /european-disintegration-a-search-for-explanation-by-hans-vollard/

Werner, R. A. (2016), A lost century in economics: Three theories of banking and the conclusive evidence. *International Review of Financial Analysis, 46,* 361-379. https://www.sciencedirect.com/science/article/pii/ S1057521915001477

White, E. G. (1917). Prophets and kings. *Biblical Institute of E.G. Writings* open source publication. https://egwwritings-a.akamaihd.net/pdf/en_PK.pdf

White, E. G. (1909). Daniel and the revelation: Babylon the mother. *Biblical Institute* of E.G. Writings open source publication. https://m.egwwritings.org /en/book/1297.3315#3330

White, E.G. (1957). EGW Comments. *EGW Bible Commentary* series, Vol. 7, p. 812. https://m.egwwritings.org/en/book/96.2#0

White, E.G. (2022). The Great Image of Daniel Chapter II. *Biblical Institute* of E.G.Writings open source publication. https://m.egwwritings.org/en/book/ 1381.188#208

Eric J. Nasution, PhD
Professor (Emeritus-AIIAS)
Business and Development Economic
Adventist International Institute of Advanced Studies
Silang, Cavite, Philippines
nasution@aiias.edu