

## **Infrastructure Investment Inside And Outside Of The Eurozone**

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### **Abstract**

What explains the difference between Poland and Spain's relative positions in weathering the 2008 Euro Crisis? What role did the Structural and Cohesion Funds, especially in relation to infrastructure investment, play in producing these outcomes? Infrastructure can serve as a platform for growth and development, but only when coupled with other regional development plans and a flexible currency regime. In times of crisis, does infrastructure investment fulfill its purpose of mitigating regional disparities, both inside and outside a monetary union? In this paper, Mill's Methods of Comparison were employed in a comparative case study of Poland and Spain using qualitative evidence, with Italy to triangulate and support the findings. The pieces of data relied upon were changes in GDP, growth in numbers of highways and roads, level of exports, changes in levels of unemployment, trends in income inequality, volume of freight exports as percentages of GDP, EU budget allocations, but perhaps most importantly, changes in exchange rates (Euro vis-a-vis the Polish zloty). I found that an independent monetary policy can magnify the effects of infrastructure, but the effect of highways and roads all but disappears in times of crisis, showing that it is exchange rate, not infrastructure, that is more important without an independent monetary policy. Therefore, EU membership presents itself as an opportunity, not a guarantee of development. Infrastructure investment can amplify the effects of prosperity, but fails to produce intended benefits in times of crisis. In conclusion, it is the exchange rate and not infrastructure that is more important to convergence during a crisis.

**Keywords: Infrastructure development, European Union, exchange rates**

### **1. Introduction**

To what extent does the ceding of an independent monetary policy dampen the positive effects of infrastructure to encourage growth and counteract economic crises? By analyzing Poland and Spain in a comparative case study with Italy as a tertiary element to provide support, this paper will analyze the differences in policies that allowed Poland to make the best use of their new infrastructure system as a tool to reduce the negative effects of the financial crisis while preventing Spain from doing the same.

In recent history, an important goal of the European Union has been to provide sustained price stability for its participating states, while also working towards contributing to economic prosperity through a system of openness. In its path towards integration, the EU has zeroed in on certain member states with economic potential but subpar infrastructure systems and deployed EU Structural and Cohesion Funds in the tune of several hundred billion euros, the majority of which were and are invested in infrastructure. One of the main purposes of these projects is to encourage regional convergence both within recipient countries and amongst members of the EU. Because of Spain and Poland's tremendous growth following their accessions into the EU and subsequent use of these investment funds, they prove to be interesting cases, especially when considering their differing roles and involvements in the union.

Spain's growth in conjunction with their investment into infrastructure and construction of one of the world's most sophisticated networks of highways and roads is nothing short of remarkable, but the sustainability of this project came into question with their recent struggles during the 2008 Euro crisis. On the short term immediately following

implementation, Poland's case is similar and almost parallel in terms of investment into highways, but the variation between the two countries diverges at two crucial points, one of observation and one of fact. First, while Spain suffered immense losses during the recession, Poland continued to grow, albeit slowly and gradually. Second, and perhaps most importantly, Spain joined the Eurozone in 1999 while Poland continues to hold their own currency, the linchpin that can serve to explain the difference between the effects of the recession on the two countries.

The purpose of this paper is to analyze the sustainability and efficacy of the EU Structural Funds in mitigating regional disparities, specifically related to investment in infrastructure in Spain and Poland, or a country within and outside the monetary union of the Eurozone. Infrastructure can serve as a platform for growth and development, but only when coupled with other regional development plans and a flexible currency regime. Otherwise, the intent of the EU Structural Funds falls flat when a country is faced with recession. Understanding the implications that a free floating, independent currency and monetary policy have on a state's ability to react to fluctuations in the business cycle is crucial: this tool allows for natural adjustments in the equilibrium of exchange rates and/or artificial modifications, or depreciations during crises, both of which serve to stimulate exports, reduce unemployment, and keep countries afloat in times of trepidation.

The distinction must be made clear, however, that surrendering an independent currency as a result of joining a monetary union and disadvantage during a crisis are not mutually exclusive as long as the exchange rate falls within what would have been an equilibrium rate for that country. An independent monetary policy can magnify the effects of infrastructure, but this positive interaction and effect of highways and roads all but disappears in times of crisis, showing that it is exchange rate, not infrastructure, that is more important without an independent monetary policy.

## 2. Literature Review

Because the development of infrastructure systems is an immediate way to encourage economies to become more integrated and open with neighboring countries and trading partners, the European Union has devoted a significant part of its budget into Structural and Cohesion Funds, which also aim to mitigate regional disparities within recipient states. Scholars have questioned whether expansionary policies and measures taken to construct new highways have the intended effect of convergence or whether theoretical success falls flat when faced with practical results.

In line with the liberal and neo-liberal economic thought governing the present time, opening up a country to maximize its comparative advantage through increased trade reduces the level of unemployment, which is positively correlated to a region's growth.<sup>1</sup> A sophisticated region connecting system of public highways and roads can make the export of goods and ideas more accessible, promoting a fluidity of migration and choice for citizens to begin investing,<sup>2</sup> perpetuating social mobility.<sup>3</sup> Growth through free migration enhances a region's ability to absorb established technologies at a low cost, a concept called technology diffusion.<sup>4</sup>

Although Fagerberg et al. finds this concept integral to reduce disparities, he doubts that public funding through the EU Structural Funds effectively deals with the problem, providing evidence that even in the presence of doubling the EU Structural funds since 1988, regional imbalances have not been reduced.<sup>5</sup> In his criticism of public funding however, he fails to consider the positive externalities that public funding may have on private investment and partnerships. Assuming that free migration is necessary for technology diffusion and roads serve as a platform for the takeoff but wasting funding and resources on infrastructure is unnecessarily and inadvisable, what are the other alternatives, if any? Other scholars would agree with Fagerberg et al., arguing that infrastructure development has no bearing on regional disparities, going as far to say that open door policies may actually increase differences: real growth, they assert, must come from foreign and industrial trade reforms.<sup>6</sup> Demurger's concedes that it can, however, increase a country's aggregate productivity by improving the accessibility for market transactions,<sup>7</sup> but investment in infrastructure without an equal or greater contribution into human capital through a set of ambitious national policies aimed at education and health improvement will be fruitless at bridging income inequality.<sup>8</sup> Demurger, therefore, takes the analysis of Fagerberg one-step further as he offers a more concrete remedy to supplement the failure of infrastructure investment and achieve the intended goals.

His analysis directly challenges the advocates from the convergence hypothesis camps, which advocate public investment into infrastructure as the most effective way to perpetuate regional convergence.<sup>9</sup> In the path to prove their respective points, however, both camps fail to take into consideration the effect of time on the variability of the outcome that infrastructure can have on regional disparities. Esfahani and Ramirez remedy this by meeting the two camps in the middle, saying that the ineffectiveness in the short run may simply come from the government's struggle to deal with imbalances in the short run but will smooth out in the long run.<sup>10</sup> But like Demurger, they understand the limitations of relying too heavily on infrastructure for change, and conclude that better outcomes require institutional

and organizational changes that run deeper than investment projects.<sup>11</sup>

Lago-Penas et al. approach the dilemma from yet another perspective and although they find no significant evidence for regional convergence in the presence of infrastructure development in their analysis of Spain, they point that the method of investment was flawed, not the idea itself.<sup>12</sup> They argue that Structural Funds should be distributed from a centralized source in order to broadly assess regional need instead of distributing funding to regions. In this way, funds and resources could be more vigorously allocated to benefit poorer regions more than already developed ones.<sup>13</sup> Some scholars assert that switching to a national criterion for the allocation of funds would reduce inefficiencies such as wasteful duplication of resources or exacerbated shortages,<sup>14</sup> and that regional distribution should be left at the discretion of member states.<sup>15</sup>

Moreno and Lopez-Bazo offer an alternative explanation as to the inconclusive nature of infrastructure and its effect on regional disparities by extending the traditionally used model to account for spillover effects, and estimate that the benefits could be severely underreported because of the difficulty of documenting effects that extend cross regionally.<sup>16</sup> Because they find that highways increase the number and variety of manufacturing businesses but do not directly influence aggregate productivity, they argue for a decentralized system of local infrastructure investment, which they find produces a greater return and increases positive spillover effects,<sup>17</sup> a recommendation in direct contrast to that of Lago Penas et al. The former scholars also point out that “the Spanish economy experienced a period of continuous growth that ran parallel to processes of industrialization, openness, and integration to a common market area, and additionally, to steady improvements in the endowment of public infrastructure”.<sup>18</sup> They use the Spanish case as an example to elucidate the particular usefulness of infrastructure to develop underdeveloped economies but also to show that there are limitations to the growth that can be achieved, as infrastructure tends to produce results with diminishing returns in advanced countries.<sup>19</sup>

Limitations to growth and convergence do not just affect advanced countries that benefit less from infrastructure, but also places where potential success is realistic but other factors exist that impede the process or work to undo the positive advancements. Scholars speculate the effectiveness of infrastructure developments while in a monetary union, as sharp appreciations of the exchange rates can serve to undo the increased accessibility and ease of exporting that highways and roads facilitate.<sup>20</sup> As seen in Spain during the European crisis of 2008, this interaction can result in vast unemployment whose “severity can make [the country] move further away, convergence wise, from developed countries, particularly from EU countries, which are also having difficulties to keep up with the growth of the emerging areas and to meet the challenges of globalization”.<sup>21</sup> Arestis and Sawyer echo Carballo-Cruz’s analysis, saying that economic faults of the EU come from its fundamental design flaws<sup>22</sup> that disempower member states by taking away their ability to react to shocks by altering their exchange rates.<sup>23</sup>

In times of growing trepidation, states may react by attempting to cut fiscal spending which often means a great reduction in infrastructure investment.<sup>24</sup> This choice, however, is not the optimal one as poor highway maintenance and expansion coupled with the already shrinking competition due to restricted monetary policy may actually work against stabilization, not for it, and prevent long term growth.<sup>25</sup> This has the effect of polarizing regions from development by further cutting the possibility for exporting goods, which may actually exaggerate disparities.

### **3. Research Design**

This study will include analysis of two key independent variables- infrastructure investment (IV1) and currency control ability (IV2)- and their effects on the dependent variable, the ability of infrastructure to reduce regional disparities both in the absence and in the presence of a recession. My hypothesis is that if a country invests heavily in infrastructure but does not have freedom to control its currency and the ability to influence its competitiveness, the roads will not hold up to their mission of promoting regional convergence and reduction of inequalities. The causal mechanism is both the actual roads and their ability to move around people and ideas and recessions in their stifling of that.

Because the questions posed for this paper are so specific of context, time, and the situation within the European Union, conducting a case study comparison between Poland and Spain is the method that will produce the most nuanced and structurally sound results. Choosing to work with small-n neo-positivist methods is important as it allows delving deeply into both countries and the circumstances that cause variance. Instead of describing a wide-ranging phenomenon of global scale, focusing in on two very similar but different countries allows to pick apart the real reasons and issues associated with infrastructure development and regional disparities. Quantitative data will play a role in the conclusions as well, and will be relied upon for descriptive purposes. In order to carry out my actual study, I will rely on a variety of data sets, including changes in GDP, growth in numbers of highways and roads, level of

exports, changes in levels of unemployment, income inequality trends, volume of freight exports as percentages of GDP, EU budget allocations, but perhaps most importantly, changes in exchange rates (Euro vis-a-vis the Polish zloty).

The purpose of the inclusion of Italy's data is to support the hypothesis that surrendering an independent national monetary policy does have adverse affects in times of crisis, even in the presence of well-developed infrastructure systems that are created as tools to combat those negative imbalances. Although the bulk of analysis will be focused on Spanish and Poland, Italy's case is presented alongside the Polish and Spanish cases to bolster the argument that the Spanish case is the rule, not the exception, in the European Union. Spain and Italy's GDP per capita, albeit slightly different, is similar enough to engage a valid comparison for the purposes of evaluating the effects of the Euro Crisis. Both countries have developed infrastructure systems and continue to invest in infrastructure.

Spain and Poland prove to be similar cases as well. At a population of 38.5 million, 319 people occupy a square mile in Poland.<sup>26</sup> Spain boasts a population of 47.7 million, or 244 people per square mile.<sup>27</sup> Italy's population is slightly larger, at 59.83 million but close enough as to not disturb the study.<sup>28</sup> This means that density will not have an effect on migration patterns.

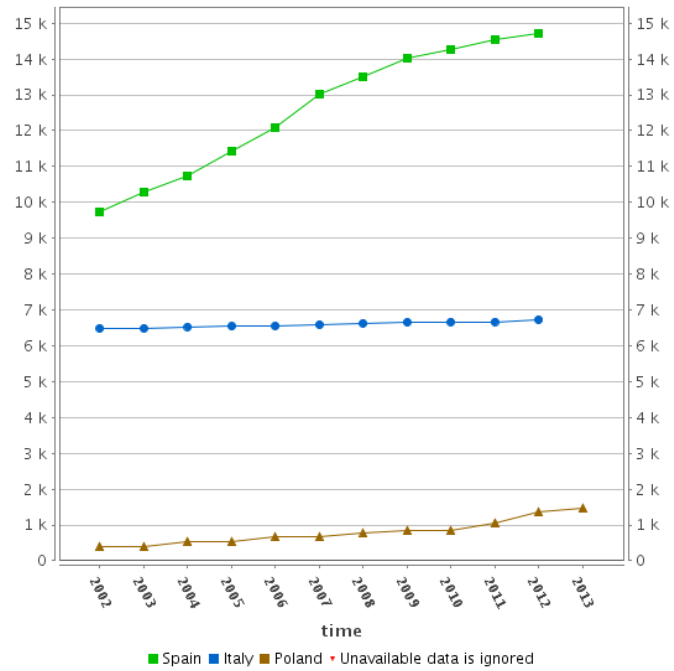
Spain and Poland's timelines of infrastructure development and accession into the EU also offer valuable insights as Spain can be seen as the tried and true example for other countries like it. However, the linchpin of the study comes with the fact that Spain is a member of the Eurozone while Poland remains outside the monetary union. This variance of monetary dependence vs. independence makes all the difference because it can be suggestive if the EU Structural Funds are actually conducive to growth, especially in the face of the recent 2008 crisis. From an outsider's perspective, it may seem as though Spain's development and investment into its sophisticated highway system did nothing to reduce regional disparities in the long run, but its entrance into the Eurozone could offer some explanation as to the country's inability to use trade to crawl out of the crisis. In Poland, we see the opposite during the crisis and use the country and its more recent investments to analyze whether EU Structural Funds are effective in encouraging convergence while the country is still in control of their monetary policy.

#### **4. Case Study: Data and Analysis**

Poland's accession into the European Union signaled a new era of growth and prosperity for the country as a multifaceted approach to development was employed to make use of its immense potential as a future leader in the global economy. Since its entrance, it has been a principle beneficiary of the EU budget and its strong performance has provided the country with leverage to inspire confidence and encourage further investment. Between 2004 and 2013, the total investment volume (both domestic and foreign) grew by 75%, helping fund 160,000 projects, 673 km of motorways, and 808 km of expressways, in addition to 36,000 km of sewage networks,<sup>29</sup> providing Poland with the infrastructure necessary to promote the free flow of capital, people, and ideas necessary for growth. The Structural and Cohesion Policies funded a whopping 51.6% of these public investments,<sup>30</sup> elucidating Poland's growing assertive attitude and influence in the European Parliament. In this case, then, Polish membership in the EU is an indicator of its ever-increasing position in the EU and on the world stage, rather than a cause for it.

The comparisons between Poland and Spain in the short term directly after implementing expansive infrastructure systems tell similar stories: between 1980 and 1987, Spain's GDP grew at a 3.2% annual change, while Poland averaged a growth rate of 6.5% between 2004 and 2007.<sup>31</sup> But Spain's infrastructure project was not complete in the 1980s as EU Structural and Cohesion Funds in conjunction with national budget spending continued to fund thousands of kilometers of roadways, as seen in Figure 1.

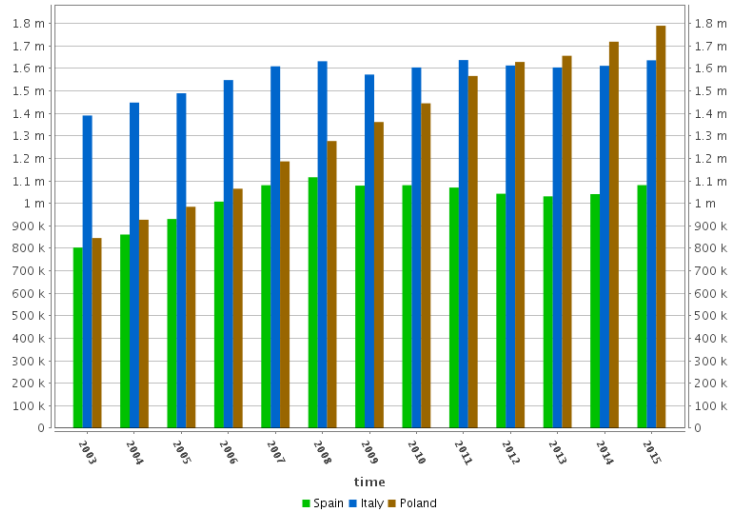
**Total length of motorways**  
km



Source: Eurostat

Figure 1. Total length of motorways

**Gross domestic product (GDP) at market prices - annual data**  
Current prices, million units of national currency



Source: Eurostat

Figure 2. GDP at Market Prices

It is useful to compare the total length of motorways (Figure 1) and GDP at market prices (Figure 2) to evaluate the efficacy of new roadways in increasing economic activity. From 2002 to 2008, Spain, Poland, and Italy experience similar gains in GDP from even incremental increases in the construction of motorways. It is expected and understandable, too, that Spain’s infrastructure was subject to diminishing returns as advanced countries with already advanced networks of motorways tend to gain less in the long run than emerging countries whose infrastructure is just

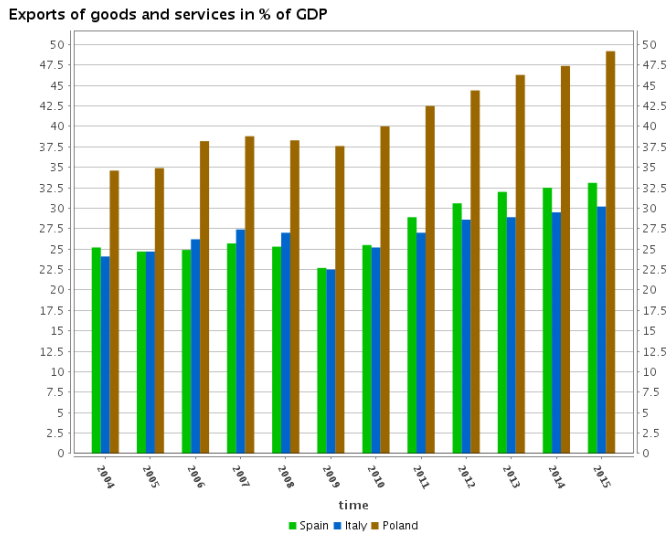
being developed in the short run.<sup>32</sup> Also without greater surprise, the three countries suffered at the outset of the recession that began the Euro Crisis, which is evidenced by the comparable drops in GDP between 2008 and 2009. But while Spain and Italy plummeted into deep crisis, Poland rebounded and continued to grow, securing its place as the only member of the European Union that was seemingly unaffected by the economic downturn. In fact, Poland's total GDP increased over 20% over the years 2008-2013<sup>33</sup>, a time when most member countries' GDPs were suffering. More incredibly, Poland's GDP grew 48.7% following its accession into the EU.<sup>34</sup>

Unfortunately, the outcome of Spain and Italy's history is not as rosy as Poland's: although infrastructure continued to be funded in hopes of reducing regional disparities and stimulating growth, it failed to deliver on its promise in these two countries that are within the monetary union. Their membership in the Eurozone comes with certain benefits: the elimination of transaction costs and price transparency.<sup>35</sup> But these benefits seem to pale in comparison with the costs of a common currency, especially in the absence of a budgetary union to remedy asymmetric shocks and serve as a protection mechanism as in the case of the European Union.<sup>36</sup> In this scenario, governments faced with a recession can turn to other, more prosperous countries in the union for funding as soon as their economies turn sour in order to avoid the amplification of shock. This transfer of funds is important because it stems demand and inflation in the booming country while stimulating employment and labor participation in the one faced with a downturn, encouraging an equalization of prices and therefore a stabilization of a dangerously shaky common exchange rate. However, this crucial fact is missing structurally in the European Union, which causes recessions to hit countries harder than they would have in the presence of a budgetary union. Arestis and Sawyer support DeGrauwe's analysis by adding that these design flaws severely disempower member states by removing the ability to manipulate their exchange rate to remedy asymmetric shocks.<sup>37</sup>

The key to Poland's sustained growth lies perhaps in its existence outside the monetary union and therefore, the possibility for independent valuation of its currency to stimulate or stem demand and establish equilibrium. In 2004, the exchange rate between the zloty and the euro was 4.527; by 2008, the zloty appreciated significantly to 3.512.<sup>38</sup> This appreciation suggests an increasingly positive foreign perception of the Polish currency following accession into the European Union, and growing confidence in Poland's ability to remain stable. At the onset on the crisis in 2008, Poland exploited its independent monetary policy to stimulate demand, keep levels of exports from plummeting, and to weather the crisis fairly well; from 2008 to 2009, Poland depreciated its currency quite heavily from 3.512 to 4.328.<sup>39</sup> From 2009 to 2010, the zloty appreciated once again to 3.995,<sup>40</sup> signaling a bounce back from the momentary troubles. Since then, the zloty has remained relatively stable, with no jumps larger than .1 since 2011.<sup>41</sup> These trends follow logically with would be expected to occur given both pre and post crisis circumstances. Upon its entrance into the EU, subsequent access to the large budget, and funding into the sophisticated infrastructure system, it is no surprise that the zloty experienced a rapid appreciation. From 2004 to 2008, the share of companies with foreign capital in the country ballooned to about 40%,<sup>42</sup> instilling confidence in investors and contributing to the cycle of FDI and continued and consistent funding. Kitson et al stresses the importance of national investment strategies as a pre-emptive measure to take before crises even begin, stating the significance of modernizing infrastructure and capacity because "the private sector cannot be relied on to invest in such areas—not simply because of chaos in financial markets but because the returns to such investments are economy-wide rather than investor specific".<sup>43</sup> However, Poland's response to the beginning of the crisis is what provides this study with its most substantive piece of evidence: devaluation.

In theory, depreciating currency can serve as an important tool to weather unusually difficult business cycles because of the positive effect that a cheaper currency has on the stimulation of demand and exports, which increases employment in hard hit sectors.

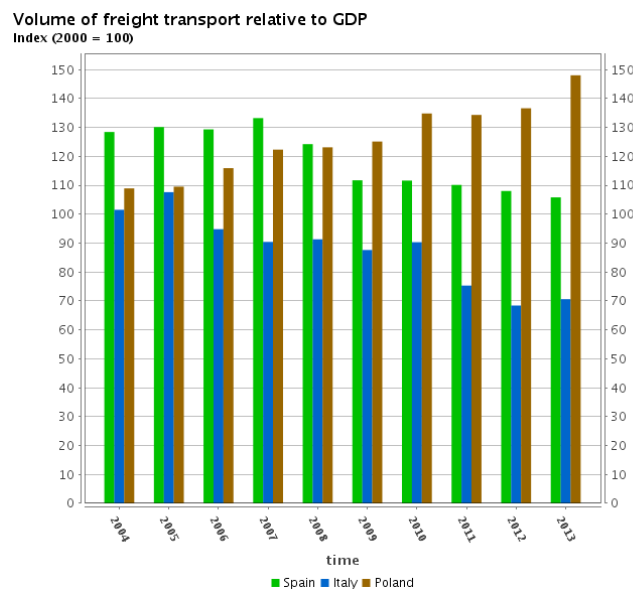
Infrastructure played a paramount role in magnifying the positive effects of currency devaluation because the new roads supplemented the demand for exports by providing both domestic and foreign companies with increased accessibility to trade with cross regional and cross country routes, serving as literal mechanisms for growth. As seen in Figure 3, Poland's strong results are in contrast to Spain and Italy's export history, which either suffered or grew too slowly to provide a substantial effect on raising them from the crisis. Polish exports to the EU-10 grew to 25.3 billion euro in 2013 as compared to 6.2 billion in 2003, while exports to non-EU countries grew by 400% to 38.6 billion euros in 2013, perpetuating Poland into the leading exporter among countries in Central and Eastern Europe.<sup>44</sup>



Source: Eurostat

Figure 3. Poland’s strong results are in contrast to Spain and Italy’s export history, which either suffered or grew too slowly to provide a substantial effect on raising them from the crisis.

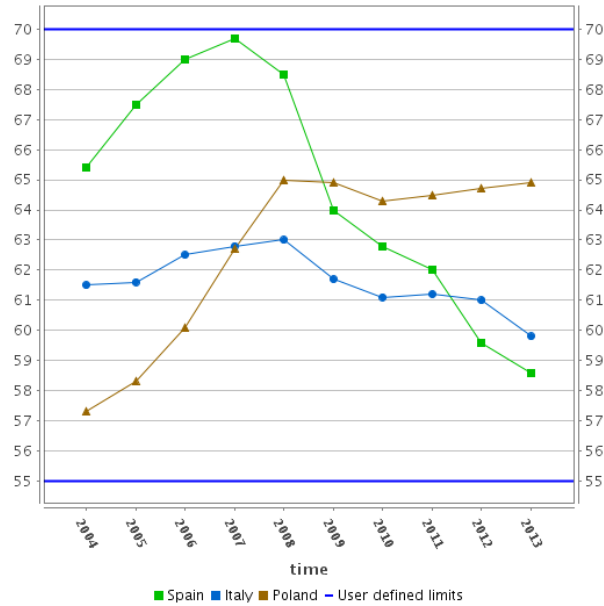
Poland’s effective use of its roads to stimulate exports can also be seen in its growth of the volume of freight transport relative to GDP, which rose from 108.9% of GDP in 2004 to 136.6% in 2012 (Figure 4). This trend is especially interesting when compared to Spain and Italy’s relative performances both in 2004 and 2012. Spain started off a clear leader in 2004 with the volume of freight transport reaching an impressive 128.4% of GDP. After a massive dip during the peak years of the crisis, it essentially swapped places with Poland in 2012, forming a rather prominent cross as seen on Figure 1. Italy’s case is just as curious as the country started off at a relatively equal level with Poland in 2004, but plummeted by a staggering 33.1 percentage points by 2012. Comparing Figure 4 to Figure 1 again reveals implications of the decreasing return on Spanish infrastructure or its ineffective use: although roads continued to be built, the volume of freight transported on them decreased significantly.



Source: Eurostat

Figure 4. Effective Use of Poland’s Roads

The importance of an appropriately leveled exchange rate (IV2) is also evident through the analysis of employment rates (Figure 5)



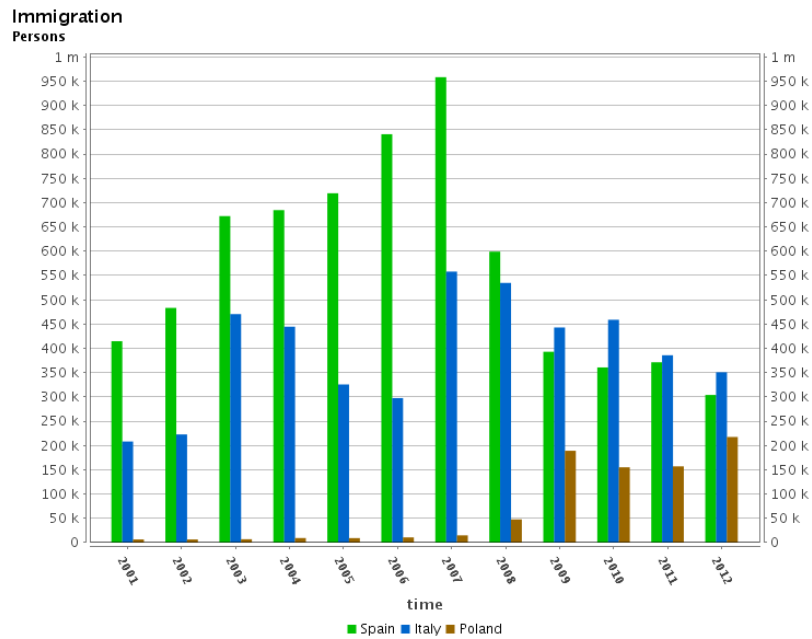
Source: Eurostat

Figure 5. Employment Rate, Total

With an already suffering export sector, it is almost impossible that employment remains stable especially when industries flee the country in search of more advantageous opportunities. In Spain’s case, fiscal tightening in the form of austerity forced millions of people out of work, resulting in record high unemployment rates, plummeting standards of living and rapidly increasing levels of inequality. Looking back to Figure 1, it is curious that the growing length of motorways did nothing to stimulate demand, but the maintenance of the quality roads and highways is just as important, if not more important, as the construction of new ones.<sup>45</sup> A well functioning infrastructure system has the potential to promote a fluidity of migration as individual costs of labor mobility and individual risks are reduced. Citizens have a choice where to move based on their skillset which can encourage growth because as region’s become more specialized in their industries, the technologies introduced to them are able to be more effectively absorbed, a concept Fagerberg et. al calls technology diffusion.<sup>46</sup> This kind of concentration is efficient because “producers benefit from a large pool of specialized workers, suppliers, and financiers, and because the many interactions among participants in the industry [...] help generate ideas and nurture projects”.<sup>47</sup> But this effectual movement and concentration of resources can fail to materialize even in the presence of a complex network of roads and highways if prices and an exchange rate remain too high, increasing the costs of individual labor mobility thereby stemming it. As seen in the Spanish case, this is exactly what could have happened, as both short and long-term unemployment soared to incredible new heights between 2007 and 2013. Italy had a similar reaction to the crisis, albeit not as dramatic. As observed in Figure 6, Poland managed to increase their employment participation, however, by almost 8%.

Spain’s unfortunately poor use of its infrastructure and growing unemployment can also be seen in the level of immigration into the country, which plummeted between 2007 and 2008 and continues to decrease, as evidenced by Figure 6. Italy’s inflow of immigrants also decreased slightly, although not as much as in Spain, but nonetheless suggests the unattractive economic landscape that discouraged the free labor movement into the country. In order to service its debts and reduce its debt to GDP ratio, Spain was forced to impose a strict agenda of fiscal tightening, which further reduced employment and coerced immigrants to move out while discouraging labor inflow.

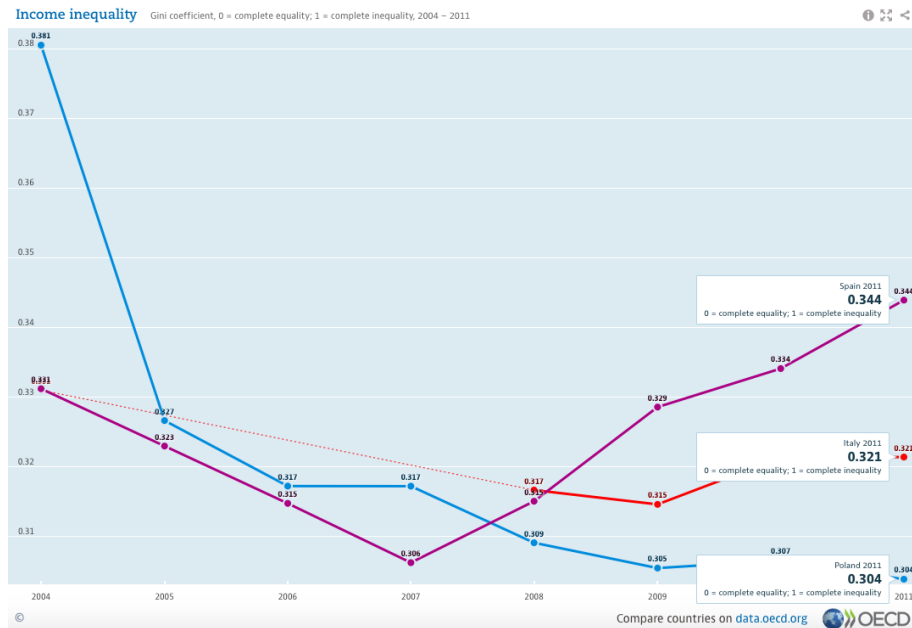




Source Eurostat

Figure 6. Increase in employment participation in Poland

Additionally, the inequality in Spanish households is on a steep rise (Figure 7), contradicting the goals of the Structural and Cohesion Funds to reduce regional disparities. According to the Gini coefficient data compiled over a period of eight years from 2004 to 2011, Spain has been steadily inching towards “1”, or complete inequality, and away from “0” or complete equality. In 2004, Spain’s Gini coefficient was .331; in 2011 that number jumped to .344. Italy too experienced a slight rise in inequality, but because of a lack of data from 2004 to 2009, it is difficult to tell what the actual increase would have been. Poland, on the other hand, made strides in reducing inequality as its coefficient decreased from .381 in 2004 to .304 (OECD Income Distribution Database) in 2011, a testament to the promise of reducing regional disparities through sustained investment in infrastructure. Between 2003 and 2013, Poland’s nominal wage increased 66%, which corresponds to 27% after adjusting for inflation.<sup>48</sup> In addition, individual disposable income has almost doubled, from PLN 700 to PLN 1300.<sup>49</sup>



Source: Eurostat

Figure 7. The Inequality in Spanish Households

## 5. Conclusion

It is important to note “EU membership presents itself as an opportunity, not as a guarantee of development. Whether a country can fully capitalize on this opportunity depends on how it decides to conduct its economic policy”<sup>50</sup>. However, taking full advantage of this opportunity also depends on its economic situation in the context of regular and irregular business cycles, a factor which members of the monetary union may not have control over. The surrendering of an independent currency can have apparent and lasting effects on countries even as they scramble to put together resources to weather the storm in a way that is most non-intrusive to everyday life as possible. So, it is not the membership in the European Union per se that has adverse effects on struggling economies during crises, but the inappropriate exchange rate that suits some countries better than others. And because this exchange rate is largely immobile to specific countries and cannot be artificially changed by individual governments, policies such as austerity must be enacted that further entrench countries in recession, perpetuating a vicious cycle of a maintained downturn.

In this comparative case study featuring Poland and Spain as its main players, the mobility of the exchange rate played a crucial role when examining the efficacy of infrastructure investments during crisis. Poland’s case elucidated that the ability to depreciate currency when necessary can actually save an economy in its most fragile state, while Spain’s downward spiral into a serious crisis evidenced through large-scale unemployment is reflected in its inability to stimulate demand and exports. Italy’s tertiary status in this study helped to support this conclusion and the data collected provided concrete evidence to suggest that currency does in fact play a major role in crisis management.

In cases such as this, fiscal tightening, especially from the infrastructure budget, can wreck havoc on export potential, once again perpetuating the state into an uncomfortable and difficult position. Participation in a monetary union is therefore crucial in understanding responses to crises not because of its direct effects on countries, but because of the limitations or allowances it implicitly places on the decision making processes of countries facing crises.

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