STYLIZED FACTS AND EMPIRICAL ASSESMENT OF THE INSIDERS – OUTSIDERS SOCIETY STRUCTURE

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Abstract

In this paper we employ industry level data to rank a group of countries according to the strength of several frictions characterizing their economy. These frictions could serve as an explanation of the differences observed in their macroeconomic performance. To the extent these frictions reflect an underlying politico-economic system, the "Insider-Outsider Society Structure", characterized by selfish elites with market power cooperating to influence the government in protecting and promoting their collective self-interest, this ranking also reveals the degree a country is run by an insiders' government. This, in turn links macroeconomic performance with the existence of such a politico-economic structure. Using data from 18 OECD countries and 19 industries spanning from 2000 to 2017, our findings reveal significant differences between countries regarding the prevalence of insiders' industries. Most notably, in Southern and Central Europe, a significant portion of GDP is generated by insider industries, whereby the implied inefficiencies justify the problematic macroeconomic performance of these countries. Countries with a high concentration of insider industries tend to experience inefficiencies that hamper overall economic growth. These inefficiencies arise from the market power held by insider industries, which allows them to maintain high wages and profits at the expense of broader economic productivity. As a result, insider-dominated economies, such as those in Southern and Central Europe, face slower growth compared to more competitive economies like those in Northern Europe and the United States.

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1. Introduction

In this paper we employ industry level data to rank a group of countries according to the strength of several frictions characterizing their economy. These frictions could serve as an explanation of the differences observed in their macroeconomic performance. Our reference point is a theory relating these industry frictions to macroeconomic performance is the so-called insiders-outsiders society.[1] This was motivated by the political science literature of corporatism and the apparently problematic behavior of several South European countries in the aftermath of the Great Recession.[2] In a nutshell, according to this theory, a country's economic and political outcomes, including growth and business cycle properties and governance are jointly determined by the interaction of economic and political factors. The economic factors have to do with the market power enjoyed by a group of agents called "insiders" and are associated with several frictions, such as monopolies in product markets and the wage bargaining process. Thus, these frictions lead to insiders' benefits that serve as the vehicle to influence/control government decisions.
In particular, the critical mass of non- competitive (i.e., insiders' industries) is decided by government.

For our purposes, it is important that the above-mentioned frictions are quantifiable. The "insider-outsider society" model proposes a politico-economic system characterized by selfish elites with market power. These elites cooperate to influence the government in protecting and promoting their collective self-interest. As shown, e.g. in Dimakopoulou, et al (2024) and Kollintzas et al. (2018b), economies dominated by insider groups exhibit lower productivity and growth. A way to assess the inherent market distortions and competitiveness of an economy is to examine how competitive its industries are. For example, market power in the product and labor markets of the insiders' industries lead to higher product prices, wages and profits in insiders' industries relative to product prices, wages, and profits, respectively, in the outsiders' industries. Moreover, the number of these non-competitive industries is determined by the underlying political trade-off, whereby a higher number of insiders industries ensures the (ex-ante) electability of a government but at the same time increase the danger of government instability as lower relative wages and

[1] See, e.g., Dimakopoulou, et al (2024), Kollintzas and Vassilatos (2023), Kollintzas, et al (2021), Kollintzas, et al (2018b).
[2] See e.g. the Political Science literature references in Kollintzas, et al (2018b)

profits in insiders' industries provide incentives to limit the number of insiders' industries ex post. At any rate, such a government – an insiders-outsiders society government -will permit and maintain an insiders' sector with a critical mass of non-competitive industries.[3] This means that by investigating the extent a country's industries can be characterized as insiders, could lead to a classification of countries with respect to the degree a country is run by an insiders' government. In other words, by exploring indices and constructing composite indicators stemming from market structure, labor, financial and innovation characteristics at a disaggregated industry level may provide insights on the classification of countries run by an insiders' government or not.

The paper relates to the literature on the insider-outsider theory and its relation to macroeconomic performance and second, as well as the literature on economic index construction.

The theoretical framework focuses on the socio-economic dynamics that may rise within various institutional contexts. Cole and Ohanian (2004) discuss an empirical assessment of the New Deal policies in the United States, illustrating how the cartelization policies created insider advantages that significantly hampered economic recovery during the Great Depression. Their dynamic general equilibrium model shows that these policies, which increased labor bargaining power and limited competition, accounted for the weak recovery by maintaining high wages and reducing employment opportunities for outsiders. In a similar vein, Kollintzas et al. (2018b) explore the interplay between market and political power in Greece, highlighting how the insider-outsider labor market structure contributes to the country's prolonged economic stagnation and crisis. Their neoclassical growth model emphasizes the detrimental effects of labor misallocation and inefficient fiscal policies driven by insiders' influence over public sector employment and wages. Both papers underscore the significant role of political and institutional factors in shaping labor market outcomes and economic growth, offering insights into the challenges faced by economies with entrenched insider-outsider divisions.

[3] Kollintzas and Pechlivanos (2024) study the ex-post stability and ex-ante electability of a government controlled by insiders. Dimakopoulou et al. (2024) postulate the existence of government that is influenced by representatives of insiders' industries. This is a hybrid type government such as the ones introduced in the political economy literature by Person - Tabellini (2002) and adopted in Kollintzas et al. (2018b). The government controlled by insiders' is an "elite government" such as those considered in the pioneering growth/political economy papers by Acemoglu (2006, 2009) and Acemoglu and Robinson (2008).

In what concerns the construction of the indices that will provide indication of the existence and relative strength of an insiders-outsiders structure, we resort to a Principal Component Analysis (PCA). More specifically, using data from 18 OECD countries and 19 industries spanning from 2000 to 2017, we employ PCA to create two key indices: The first combines the Wage Premium (the extent to which wages in a specific industry exceeds the median wage) and the Net Profit Margin (measuring industry profitability), while the second includes additional indicators such as Research and Development (R&D) intensity and the Herfindahl-Hirschman Index (a measure of market concentration). Based on these indices we then categorize sectors as Insiders or Outsiders industries accordingly and then rank countries with respect to the extent they are run by an insiders' government.

Our analysis reveals significant differences between countries regarding the prevalence of insider industries. Countries like the Czech Republic, Greece, Spain, and Italy emerged as strong examples of insider-dominated economies. In contrast, countries such as Denmark, Sweden, and France showed a lower concentration of insider industries. Countries with a high concentration of insider industries tend to experience inefficiencies that hamper overall economic growth. These inefficiencies arise from the market power held by insider industries, which allows them to maintain high wages and profits at the expense of broader economic productivity. As a result, insider-dominated economies, such as those in Southern and Central Europe, face slower growth compared to more competitive economies like those in Northern Europe and the United States.

The plan of this paper has as follows: Section 2 focuses on the matching between the underlying theoretical model and the stylized facts. Section 3 proceeds to the identification of variables related to market power. Section 4 discusses the literature on the construction and refinement of economic indices. Section 5 presents the way we apply PCA as well as the criteria set for the classification of countries. Section 6 focuses on the data used, while Section 7 presents the resulting rankings and classifications. Finally, Section 8 concludes.

2. Theory vs Stylized Facts

According to the Insiders-Outsiders Society (IOS) theory put forward in various papers over the last decade (See references in footnote 1), a country's economic and political outcomes, including growth and business cycle properties as well as governance

are jointly determined by the interaction of economic and political factors. The economic factors have to do with the market power enjoyed by a group of agents called "Insiders" and are associated with several frictions, such as monopolies in product markets and the wage bargaining process. These frictions prevail because the political system allows Insiders to influence government decisions in pursuit of their own self interests. An implication of the theory is that countries that have governments influenced or controlled by the representatives of insiders' industries will tend to have relatively low growth, due to the underlying inefficiency associated with the insiders' sector. Moreover, a further implication of the theory is that the greater the complementarity across intermediate good industries in the final good sector, the greater the economy's inefficiency brought about by stronger market power in insiders' industries. In this respect, a potential source of the problematic macroeconomic performance of, for example, several Southern and Central European countries can be attributed to the insiders-outsiders structure of their politico-conomic system.[4] Credence to this explanation could be provided by evidence of significant market power characterizing a significant fraction of a country's industries. We emphasize the notions of significant market power and significant fraction of a country's industries, for there are, of course, several other explanations for market power, other than government fiat. For example, market power in the market for an industry's product could be due to increasing returns to scale, national and international patents, high start-up costs, reputation and brand loyalty, etc. Thus, in a way we are interested in the existence of market power over and above non-government factors. For that matter, we need to identify market power that is related to government fiat. And, we are interested in finding market power in a significant fraction of industries with the extent of this fraction varying among countries.

3. Identification of variables related to market power

Our ultimate task is to construct indices made up of several variables that are thought to relate to market power in product and factors (especially labour), markets. These variables, according to our IOS theory may be used to characterize industries as "insiders'

[4] Kollintzas et al. (2018a) provide several stylized facts consistent with the insiders-outsiders politicoeconomic system for a number of Southern European countries. Kollintzas et al. (2012) provide stylized facts indicating the IOS structure as the culprit of the dismal macroeconomic performance of Greece

or outsiders' industries" and countries as "countries with insiders' or common good governments". Before proceeding to the presentation of the statistical techniques used to combine these variables and produce the respective indices, it is necessary to define these concepts both theoretically as well as operationally, i.e., for the purpose of establishing stylized facts. Also, it is necessary to briefly explain the logic behind choosing the above variables as potentially important determinants of market power.

More specifically, we shall consider four variables that could be related to market power at the industry level. The two basic indicators are the Gross Profit Margin and the Wage Premium. These will be also complemented by the Herfindhal Index and R&D Expenses as a ratio over Value Added.

The Net Profit Margin of a particular industry is defined as the ratio of the industry's gross profits over its value added. Gross profits include the gross return to capital (i.e., capital depreciation costs and the net return to capital). In theory, firms of a non-competitive industry, possess market power and set prices so as to maximize profits. To the extent that they are successful, this leads to economic profits. Economic profits are of course different from accounting profits. Most importantly, in contrast to the former, the latter incorporate the gross return to capital. However, since we shall focus on the relative differences of these (accounting) profits vis-a-vis those of a benchmark country, the inclusion of the gross return to capital does not seem, for our purposes, to pose any problem.

The Wage Premium of industry j in country i is defined as the ratio of the wage rate of industry j in country i over an estimate of the mean wage rate of country i. We shall focus on three measures of this average wage rate: (i) the simple average, (ii) the median industry wage rate, and (iii) the weighted average wage rate, using the fraction of industry employment over total employment as weights.

Typically, in theory, a labor union that is interested in the wage rate and employment of its members will bargain with the firm or firms in the industry and end up getting a premium for the wage of its members over and above the wage rate that would have prevailed if the market was competitive. The stronger the relative intensity of wages over employment in union preferences and the greater the relative bargaining power of the union over the firm or firms in the industry, the greater is this wage premium. Clearly, however, the wage premium in an industry could be high for reasons other than a noncompetitive

labor market. For example, industries that employ high human capital individuals will pay them a higher wage rate, regardless of the degree of competition in the underlying labor market, leading to wage premium in this industry relative to the rest of the economy. Likewise, in industries with relatively high physical capital per unit of labor, the marginal product of labor will be higher, so that, even if the labor market in this industry is competitive, ceteris paribus, there will be a wage premium relative to industries with lower physical capital per unit of labor. For that matter, we construct indexes based on wage premia, as well as the unexplained part of the regression of the wage rate of industry j in country i on the average productivity of labor in industry j and the average productivity of labor in country i.

4. Economic Indices

The construction and refinement of economic indices are crucial for the understanding of global and regional economic dynamics. These indices aggregate various economic indicators, serving as tools for benchmarking, comparison, and guiding policy-making and strategic planning. The creation of such indices, however, often involves implicit value judgments regarding the selection of indicators, their normalization, and the allocation of weights. These methodological choices have drawn significant attention and critique within the academic community. For example, Pollesch and Dale (2016) highlight the pivotal role normalization plays in determining implicit weights, which in turn affects composite scores and rankings. Similarly, Foster et al. (2012) and Athanassoglou (2015) have examined how weight choices impact both the rankings and overall achievement levels captured by these indices.

Researchers continue to innovate in the construction of economic indicators in order to capture a more comprehensive picture of societal health and economic conditions. Mero-Figueroa et al. (2020) designed an indicator that integrates diverse sub-indicators of well-being—ranging from happiness and life satisfaction to trust in government and environmental concerns. This approach not only broadens the understanding of societal well-being but also enhances the applicability of the index for policy evaluation.

Parallel to these efforts, Nieto (2004) developed a methodology for a coincident economic index aimed at monitoring the current state of the economy and providing early warnings of economic shifts. Such an index is invaluable for benchmarking and predicting short-term economic outcomes, thus bolstering the management of economic policies. In a similar vein, Ojanperä et al. (2019) proposed the construction of a Digital Knowledge Economy Index, which incorporates measures from digital platforms like GitHub and Wikipedia. This innovative approach not only supplements traditional data sources, such as national statistics and expert surveys but also provides insights into the digital capabilities and inequalities in the digital age by highlighting disparities in digital resource availability.

The use of advanced statistical methods in index creation has also been prominent. Crone & Clayton-Matthews (2005) utilized the Kalman filter alongside methodologies developed by James Stock and Mark Watson to create a consistent set of economic indices for all 50 states in the U.S. This comprehensive monthly measure of economic activity is instrumental for assessing state and regional economic conditions, thereby enhancing local economic analysis and policy-making.

Low (2000) introduced the Value Creation Index, which evaluates the impact of a company's intangible assets on its market value. Developed by the Cap Gemini Ernst & Young Center for Business Innovation, this index employs a set of standardized measures weighted according to their impact, enabling managers and investors to better gauge and enhance future company performance.

Ram (1982) advocated the use of principal components to construct composite indices that offer a more nuanced understanding of economic development compared to traditional per capita GNP measurements. By integrating multiple well-being indicators such as per capita income and basic needs fulfillment, Ram's approach not only addresses issues like currency conversion and data comparability but also simplifies complex multi-dimensional data into more manageable figures for effective international comparisons.

Principal component analysis (PCA) has been highlighted as a particularly effective multivariate technique in this context. Abdi and Williams (2010) describe PCA as a method that analyzes data tables of inter-correlated quantitative dependent variables to extract

significant information, which is then represented as a set of new orthogonal variables called principal components. This technique is noted for its ability to reduce dimensionality while capturing the most significant variations in data, making it invaluable for creating indices like the socio-economic status (SES) indices discussed by Vyas and Kumaranayake (2006). These authors utilized PCA to transform correlated asset variables into uncorrelated indices, which are particularly useful in settings where direct economic data are hard to collect. Their work demonstrates how PCA can be applied to efficiently handle different types of data and address challenges such as data clustering and the critical selection of variables. Vasilyeva et al. (2018) propose a new index focusing on social sector institutional quality, utilizing principal component analysis. Their study, based on data from 25 countries, shows how institutional performance in education, healthcare, and social security influences broader socioeconomic outcomes, including life expectancy and employment. Kurek et al. (2022) compare PCA and Analytical Hierarchy Process (AHP) for measuring local competitiveness, finding a significant correlation between the two methods. They conclude that while both are useful, PCA is especially effective for analyzing multicriteria data in this context.

Moreover, the application of PCA in cross-national studies, such as those by Batista-Foguet et al. (2004), who revised the Family Affluence Scale using Adapted Canonical Variate Analysis (ACVA) to enhance socio-economic comparisons across countries, illustrates the adaptability of these methods. This is crucial given that socio-economic indicators often vary in their relevance and interpretation across different cultural and economic contexts.

In terms of regional competitiveness and economic development, substantial work has been done to tailor economic indices to regional specifics. Huggins (2003) developed an index to assess economic competitiveness across UK regions, integrating a variety of economic measures. This index not only reflects the complex interplay of economic factors but also highlights regional disparities in economic performance, thereby informing policy aimed at fostering balanced growth.

Scaccabarozzi et al. (2022) further this approach by developing a composite indicator for Italian municipalities, which considers several dimensions of regional competitiveness and utilizes various aggregation methods to identify key drivers of competitiveness. This

nuanced examination reveals significant disparities within Italy and contributes valuable insights into the multifaceted nature of territorial competitiveness at the municipal level.

Similarly, Moirangthem & Nag (2022a; 2022b) have advanced the development of regional competitiveness indices in India, correlating these with economic growth and demonstrating the importance of tailored economic policies. Trueb (2013) also contributes to this field by applying fuzzy-set Qualitative Comparative Analysis (fsQCA) to assess economic policies towards Latin America, providing a method that integrates both qualitative and quantitative data for structured comparative analysis.

Finally, Benítez-Márquez et al. (2022) critically assess traditional methods of index construction, such as those used by the World Economic Forum in the Global Competitiveness Index, advocating for an alternative approach that relies solely on quantitative data to eliminate subjectivity and enhance transparency. This perspective is essential as it underscores the need for continuous methodological innovation to ensure that economic indices remain robust, unbiased, and relevant for policy-making and strategic economic planning.

In conclusion, the evolution of economic index construction reflects a significant shift towards more sophisticated, transparent, and multifaceted approaches to capturing the complexities of global and regional economies. The critical examination and continual refinement of these indices, as discussed in the literature, demonstrate a collective commitment to enhancing their accuracy and applicability. From the integration of digital platforms and advanced statistical methods to the adaptation of indices to specific cultural and regional contexts, researchers are actively responding to the challenges posed by traditional methods of economic measurement. The shift towards methods like PCA and fsQCA illustrates a growing recognition of the need for tools that can handle complex, multidimensional data in a nuanced manner. As such, these indices not only provide valuable benchmarks for economic performance but also serve as essential instruments for informed policy-making and strategic economic development.

5. Methodology

Our goal is to classify each country as an insider or an outsider by using insights by their industries' metrics using a set of different indicators. To this end, we shall follow a Principal Component Analysis (PCA).

5.1 Principal Component Analysis and Indicators

Principal Component Analysis (PCA) is one of the most commonly used methods for dimensionality reduction in multivariate data analysis. It transforms the original variables into a new set of orthogonal variables, known as principal components, which are linear combinations of the original variables. This transformation is achieved through the eigen-decomposition of the covariance matrix of the data, where the principal components are ordered by the amount of variance they explain in the data. The first principal component captures the maximum variance, followed by the second, and so on. PCA is particularly useful for reducing the dimensionality of data while preserving as much variability as possible (Abdi & Williams, 2010; Gewers et al., 2021).

As already mentioned in Section 3, the two basic indicators of interest are the wage premium (WP) and the Net Profit Margin (NPM). The first one measures the extent to which the real compensation of employees in a particular industry exceeds the median real compensation of employees in the economy, while the latter assesses the industry's net operating surplus and mixed income to total value added of the economy. [5] Then, the first combined index - PCA1 - is constructed using wp and npm and captures the labor market perspective and the financial performance of an industry. The second combined index - PCA2 - is further augmented with the industry-specific R&D intensity and the Herfindahl-Hirschman Index. In this way, the second composite aims at further capturing innovation capacity and market structure in addition to labor and financial performance.

For interpretability purposes, we apply min-max normalization on each first principal component following the PCA transformation. These components, which constitute our constructed indices of interest, are thus rescaled to the standardized range of [0, 1].

[5] To mitigate the influence of outliers, the median is preferred over the mean as a metric. The results remain consistent when employing a weighted mean, using the value added of specific industries as weights relative to the total value added to the economy.

5.2 Criteria for Classification of Countries

Our next goal is to classify each country in our sample as a country run by an insiders' government or not. To this end, we use the indicators described in the previous section. That is, WP, NPM, PCA1, and PCA2. And, we examine whether the indicator of a country's given industry lies above the respective intra-industry median (i.e., the median value of the indicator of this industry across countries). If so, this industry is a potentially insiders' industry. Then, to classify each country in our sample as a country run by an insiders' government or not, we use two criteria.

The first criterion involves the value added attributed to each industry. According to this criterion, a country is classified as a country run by an insiders' government, if the sum of the value added of all industries ranked above their respective intra-industry median exceeds 50% of the country's GDP.

The second criterion juxtaposes, for each indicator, the number of times an industry of a given country shows up in the top five versus the bottom five positions of the underlying country ranking. This induces a new country ranking, according to which a country is taken to be as one run by a government of insiders if this country appears more frequently in the top five, rather than in the bottom five, intra-industry rankings.

6. Data Description and Analysis

Our analysis is based on 18 OECD countries and 19 industries (see APPENDIX Table ***1***) for the period 2000 to 2017[6]. Table 2 outlines the key variables/indicators, the calculations and the range of sources used[7]. Data sources include Eurostat, OECD, and EUKLEMS, covering aspects like compensation, value added, employment, and R&D capital stock.

Table 3 presents the summary statistics. Significant variability is revealed across the economic indicators, highlighting diverse economic landscapes and competitive environments among industries. In Part A, observe that the wage premium lies within a wide range of values, with a mean of 7.982 and a standard deviation of 52.806. This large

[6] The time span is constrained by the industry level availability of data.

[7] The Tableau software link below, allows data visualization, the exploration of data insights in an interactive way and tracking the dynamics of an industry or a country competitiveness over time:
https://public.tableau.com/app/profile/dimitrios.karamanis/viz/IndustryCompetitiveness/Story1

spread reflects the differences in compensation practices across sectors. The net profit margin also varies widely, with a mean of 0.259 and a standard deviation of 0.204 suggesting diverse economic performances influenced by industry-specific factors. Research and development expenditures, measured as the percentage of total R&D per industry, show notable differences. The mean value of 5.084 and a standard deviation of 1.187 highlight a range from no investment to substantial R&D spending (up to 72.825). This indicates varying priorities on innovation across industries. The Herfindahl Hirschman Index, exhibits a mean of 45.267 and a high standard deviation of 90.218. Values range from highly competitive markets (0.0001) to highly concentrated ones (889.011), reflecting diverse market structures.

Part B of Table 3, presents the mean values per industry. This information is also depicted in Figures 1 to 4. More specifically, Figure 1 displays the mean wage premium across various industries. Sectors such as Electricity/Gas, Financial, and Information/Communication have the highest wage premiums, indicating better pay relative to other industries. Conversely, Agriculture and Accommodation/Food exhibit negative wage premiums, highlighting lower wages. This disparity underscores significant differences in compensation across different sectors.

Figure 2 depicts the mean net profit margin across various industries. Agriculture leads with the highest net profit margin, followed by Real Estate and Construction. Sectors like Public Administration/Defence and Education have the lowest net profit margins. This indicates significant variability in profitability among different industries, with some sectors achieving higher financial efficiency than others.

Figure 3 illustrates the percentage of total R&D expenditure per industry. Manufacturing dominates with the highest R&D spending, followed by Professional/Scientific and Education sectors. Public Administration/Defence and Information/Communication also invest significantly in R&D. In contrast, industries like Accommodation/Food, and Real Estate show minimal R&D expenditure, indicating a strong focus on innovation in some sectors while others invest little.

Figure 4 displays the Herfindahl-Hirschman Index (HHI) for value added across various industries highlighting the varying degrees of market concentration across different sectors. Manufacturing shows the highest HHI, indicating a highly concentrated industry. Wholesale/Retail and Real Estate follow with significant concentration levels. Conversely,

sectors such as Mining and Water Supply have the lowest HHI values, suggesting a more competitive environment.

Figure 5 shows the trends in Wage Premium and Net Profit Margin from 2000 to 2017. Wage Premium generally rises until 2006, peaks, and then fluctuates with a declining trend. Net Profit Margin also increases until 2006 but experiences a sharp drop around 2008, followed by a gradual decline with some fluctuations.

Figure 6 depicts the relationship between mean wage premium and net profit margin for the sample countries. Notably, the USA and Greece exhibit high wage premiums with differing net profit margins, while Finland and the Netherlands display high net profit margins with low wage premiums. Finally, Figure 7 illustrates the relationships between Wage Premium, Net Profit Margin, % of Total R&D per Industry, and HHI. The most remarkable correlation appears between HHI and % of Total R&D per Industry.

7. Rankings and Classifications

In this section, we first rank the 19 industries of the 18 countries according to their performance for each index. In particular, Tables 4 to 7 report the intra-industry rankings for the four indicators of interest: *PCA1*, *PCA2*, *wp* and *npf*. The median values for each indicator and industry are also reported. Further, in Table 8.a we report the number of industries above the corresponding intra-industry median along with the % of total GDP attributed to sum of the value added of industries above the respective intra – industry median. With bold are highlighted the countries that meet the first criterion (i.e., countries whereby the sum of the value added of all industries ranked above their respective intra-industry median exceeds 50% of the country's GDP).

Notably, the Czech Republic and Greece emerge as strong performers across most of the indices. In the Czech Republic in particular, 90.15% of its GDP produced by industries above the median in *PCA1* and 93.42% in *npm*. Greece follows closely with 80.25% and 88.91% of its GDP coming from industries above the median in PCA1 and *npm* respectively. Austria and Spain also exhibit significant contributions to their GDP, especially in *PCA* indices, with Austria's industries contributing 59.37% of GDP in *PCA2* and Spain's 77.35% in *PCA1*. Belgium stands out for its *wp*, with 80.59% of its GDP coming from industries above the median. In contrast, countries like Denmark, France, and the United States show varied performance across the different indices. Denmark, for

instance, has only 16.70% of its GDP from industries above the median in *PCA1*. France has a varied performance, with only 24.51% of GDP in *PCA1* but higher values in *wp* (40.57%) and *npm* (16.45%) However, the country does not meet the second criterion for any of the cases. The United States, with 39.70%, 40.58%, 79.05% and 44.42% of GDP from industries above the median in *PCA1*, *PCA2*, *wp* and *npm*, respectively, meets the second criterion only for one of the indices.

Table 8.b summarizes the group of countries that satisfy the first criterion for a country potentially run by a government of insiders. Interestingly, with the exception of the wage premium indicator, in all other three indicators, we can identify the same three clusters of countries in this group. Namely, the Southern European countries (Greece, Italy, Spain) and the Central European countries (Austria, Hungary, Slovakia and the Czech Republic). The group is complemented by three other cases (Finland, Netherlands and the UK). In fact, rankings based on the first criterion for the wage premium indicator alone may crucially depend on other factors that are excluded here due to the lack of data, such as human capital.

Next, Table 9.a reports the frequency with which a country appears in the top five and bottom five of the intra-industry rankings. The countries that meet the second criterion (i.e., appearing more frequently in the top five intra-industry rankings than in the bottom five) are highlighted with bold. For *PCA1*, the Czech Republic appears with 7 industries in the top 5 and none in the bottom 5, while Italy has 12 in the top 5 and 3 in the bottom 5. In *PCA2*, Greece appears with 14 industries in the top 5 and 2 in the low 5, and the Netherlands with 8 in the top 5 and 1 in the bottom 5. In terms of *wp*, Belgium appears with 8 industries in the top 5 and 2 in the bottom 5, while Greece has 11 in the top 5 and 7 in the bottom 5. For *npm*, the Czech Republic has 10 industries in the top 5 and none in the bottom 5, and Italy appears with 14 in the top 5 and 1 in the bottom 5.

Table 9.b presents the group of countries that satisfy the second criterion for a country run by a government of insiders. Again, with the exception of the wage premium indicator, in the other three indicators, we can identify the same three clusters of countries in this group. Most interestingly, however, these three country clusters are the same as in the case of the first criterion.

The results reported in Tables 8.b and 9.b, on the countries that satisfy both criteria to be classified as countries run by an insiders' government can be summarized as follows:

According to *PCA1*, which focuses on wage premiums and net profit margins, countries like the Czech Republic, Spain, the United Kingdom, Greece, Italy, the Netherlands, and Slovakia are highlighted. These countries likely exhibit a balanced combination of relatively high wage premiums and net profit margins. In what concerns *PCA2* where additional factors such as R&D and HHI are included, countries like the Czech Republic, Spain, Finland, the United Kingdom, Greece, Italy, the Netherlands, and Slovakia are emerging as Insiders. The *wp* metric highlights countries such as Belgium, Germany, Hungary, Italy, Luxembourg, Slovakia, and the United States attributed to strong labor unions, high standards of living, or competitive industries that drive up wages, which can attract skilled workers but might also imply higher labor costs for businesses. The *npm* metric lists countries like Austria, the Czech Republic, Spain, the United Kingdom, Greece, Italy, the Netherlands, and Slovakia, suggesting that businesses in these countries are particularly efficient at converting revenue into profit. Remarkably, the Czech Republic, Spain, the United Kingdom, Greece, Italy, the Netherlands, and Slovakia appear across multiple criteria, indicating consistency in being characterized as countries where the Insiders features are prominent.

8. Conclusions

In this paper, we investigated the potential existence of an "insiders" and "outsiders" economic structure maintaining as a reference point that "Insider" industries are characterized by higher wages, prices, and bargaining power, whereas "outsider" industries operate in competitive markets. To capture these features, using data from 18 OECD countries and 19 industries spanning from 2000 to 2017, and following Principal Component Analysis (PCA), we constructed pertinent indices. The latter were used to classify countries as those with "insider" governments or competitive economic systems. The findings indicate that in several countries, particularly in Southern and Central Europe, a significant portion of GDP is generated by insider industries, implying inefficiencies and lower growth potential.

Our results provide evidence that countries with a high concentration of insider industries tend to experience inefficiencies that hamper overall economic growth. These inefficiencies arise from the market power held by insider industries, which allows them to

maintain high wages and profits at the expense of broader economic productivity. As a result, insider-dominated economies, such as those in Southern and Central Europe, face slower growth compared to more competitive economies like those in Northern Europe and the United States. Consequently, and as an obvious policy recommendation, policymakers in insider-dominated countries should opt for reforms that enhance competition and reduce market power.

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APPENDIX

Table 1: Sample Countries and Industries

Country		Industry – ISIC Revision 4	
Code	Name	Code	Name
AUT	Austria	A	Agriculture, forestry and fishing
BEL	Belgium	B	Mining and quarrying
CZE	Czech Republic	C	Manufacturing
DEU	Germany	D	Electricity, Gas, Steam and Air Conditioning Supply
DNK	Denmark	E	Water Supply; Sewerage, Waste Management and Remediation Activities
ESP	Spain	F	Construction
FIN	Finland	G	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles
FRA	France	H	Transportation and Storage
GBR	Great Britain	I	Accommodation and Food Service Activities
GRC	Greece	J	Information and Communication
HUN	Hungary	K	Financial and Insurance Activities
ITA	Italy	L	Real Estate Activities
LUX	Luxemburg	M	Professional, Scientific and Technical Activities
NLD	Netherlands	N	Administrative and Support Service Activities
SVK	Slovakia	O	Public Administration and Defence; Compulsory Social Security
SVN	Slovenia	P	Education
SWE	Sweden	Q	Human Health and Social Work Activities
USA	United States	R	Arts, Entertainment and Recreation
		S	Other Service Activities

Table 2: List of Variables, Indicators and Sources

Variable / Indicator	Construction / Source
Main Variables/Indicators	
wp - Wage Premium	((rce/median interindustry rce)-1)*100
npm - Net profit Margin	Operating surplus and mixed income, net Value Added
rd - % of Total R&D per industry	(R&D Capital Stock industry / R&D Capital Stock Total
hhi - Herfindahl Hirschman Index	$((VA_{industry}/VA_{Total})*100)2$
PCA1	Principal Component of wp & npm
PCA2	Principal Component of wp & npm & rd & hhi
Rest of Variables	
rce - Real Compensation per Employee	Real Compensation in millions/Total Employees in
Operating surplus and mixed income, net	Eurostat, OECD
VA - Value Added	Eurostat, OECD
Compensation	Eurostat, OECD
Employees	Eurostat, EUKLEMS
R&D capital stock	EUKLEMS
Exchange rates	OECD

Table 3: Summary Statistics

Part A				
Variable	**Mean**	**Std. Dev.**	**Min**	**Max**
Wpr	7,982	52,806	-93,861	407,472
Npm	0,259	0,204	-1,104	1,068
Rd	5,084	1,187	0,000	72,825
Hhi	45,267	90,218	0,0001	889,011
Part B				
Industry	**Wpr**	**npm**	**rd**	**hhi**
Accommodation/Food	-42,277	0,308	0,031	9,026
Administrative	-24,276	0,210	0,907	13,047
Agriculture	-68,993	0,612	0,281	5,643
Arts/Entertainment	-19,944	0,274	0,588	1,731
Construction	-14,199	0,347	0,397	36,071
Education	40,391	0,030	15,126	27,192
Electricity/Gas	93,675	0,332	0,781	5,023
Financial	84,703	0,325	1,191	66,103
Health	-20,769	0,155	2,136	48,257
Information/Communication	60,779	0,249	4,336	24,925
Manufacturing	20,327	0,233	42,851	306,510
Mining	60,715	0,275	0,249	1,425
Other services	-36,238	0,326	0,432	2,376
Professional/Scientific	6,054	0,323	17,835	39,227
Public Administration/Defe..	36,081	0,003	9,768	47,345
Real Estate	-13,887	0,514	0,050	108,670
Transportation	9,130	0,162	0,436	28,687
Water Supply	23,216	0,134	0,194	0,865
Wholesale/Retail	-15,622	0,319	2,500	133,043

Table 4: Intra -industry Ranking of Countries for PCA1 Index (Wage Premium & Net Profit Margin)

Part A	A		B		C		D		E		F		G		H		I	
median	0.782		0.570		0.574		0.579		0.546		0.638		0.626		0.569		0.639	
order	country	value	country	value	country	Value	country	value	country	value	country	value	country	value	country	value	country	value
1	DNK	0.668	FRA	0.362	BEL	0.529	SVK	0.459	LUX	0.416	SWE	0.567	SWE	0.571	GBR	0.483	SWE	0.547
2	SVK	0.711	SVN	0.498	DEU	0.534	ITA	0.505	SVK	0.463	DNK	0.588	SVN	0.597	BEL	0.495	SVN	0.577
3	SWE	0.723	USA	0.507	FRA	0.541	BEL	0.507	SVN	0.466	LUX	0.598	USA	0.602	LUX	0.500	HUN	0.588
4	USA	0.736	DEU	0.509	LUX	0.544	SVN	0.536	ITA	0.484	DEU	0.615	DNK	0.604	FRA	0.530	GBR	0.609
5	NLD	0.749	HUN	0.518	GBR	0.557	AUT	0.540	HUN	0.496	USA	0.616	HUN	0.616	USA	0.538	FIN	0.615
6	DEU	0.753	GRC	0.526	SVN	0.567	FRA	0.544	SWE	0.499	FRA	0.617	GBR	0.619	DNK	0.539	USA	0.617
7	CZE	0.756	BEL	0.545	ITA	0.568	HUN	0.549	BEL	0.501	FIN	0.623	FRA	0.619	SWE	0.543	DNK	0.618
8	ITA	0.758	CZE	0.565	DNK	0.569	DEU	0.570	DEU	0.518	NLD	0.629	DEU	0.621	AUT	0.550	LUX	0.628
9	FRA	0.770	GBR	0.568	SWE	0.573	NLD	0.571	FRA	0.541	AUT	0.636	BEL	0.623	HUN	0.561	BEL	0.637
10	LUX	0.794	ESP	0.572	USA	0.575	LUX	0.586	DNK	0.550	BEL	0.641	FIN	0.629	SVN	0.578	DEU	0.641
11	GBR	0.802	SWE	0.586	AUT	0.584	USA	0.590	ESP	0.571	ESP	0.645	AUT	0.641	DEU	0.579	FRA	0.642
12	HUN	0.825	ITA	0.591	FIN	0.595	CZE	0.600	NLD	0.572	SVN	0.655	CZE	0.661	ESP	0.584	NLD	0.692
13	BEL	0.835	FIN	0.596	ESP	0.608	GRC	0.614	CZE	0.575	HUN	0.679	ESP	0.665	NLD	0.585	SVK	0.705
14	SVN	0.865	SVK	0.610	NLD	0.615	GBR	0.621	AUT	0.599	CZE	0.698	NLD	0.678	CZE	0.595	ITA	0.707
15	FIN	0.885	AUT	0.634	SVK	0.624	ESP	0.633	FIN	0.610	ITA	0.700	LUX	0.683	FIN	0.602	AUT	0.719
16	AUT	0.885	LUX	0.659	CZE	0.626	DNK	0.635	USA	0.617	GBR	0.718	SVK	0.685	ITA	0.607	ESP	0.729
17	ESP	0.905	NLD	0.739	HUN	0.632	FIN	0.645	GBR	0.627	GRC	0.754	GRC	0.724	GRC	0.621	CZE	0.742
18	GRC	0.943	DNK	0.748	GRC	0.666	SWE	0.661	GRC	0.642	SVK	0.780	ITA	0.735	SVK	0.633	GRC	0.791

Notes: Industries as follows A: Agriculture, B: Mining, C: Manufacturing, D: Electricity/Gas, E: Water Supply, F: Construction, G: Wholesale/Retail, H: Transportation, I: Accommodation/Food, J: Information/Communication, K: Financial, L: Real Estate, M: Professional/Scientific, N: Administrative, O: Public Administration/Defence, P: Education, Q: Health, R: Arts/Entertainment, S: Other services

Part B	J		K		L		M		N		O		P		Q		R		S	
median	0.555		0.579		0.726		0.613		0.602		0.479		0.499		0.564		0.621		0.634	
order	country	value	Country	Value	country	value	country	value	country	value	country	value	country	value	country	value	country	value	country	value
1	DNK	0.523	AUT	0.517	NLD	0.585	FRA	0.522	SVN	0.546	GRC	0.444	USA	0.260	SWE	0.519	SVN	0.530	DNK	0.562
2	HUN	0.535	FRA	0.529	BEL	0.659	USA	0.536	DNK	0.546	ITA	0.453	LUX	0.457	DNK	0.527	FRA	0.548	SWE	0.584
3	GBR	0.536	GRC	0.536	SVN	0.675	SWE	0.560	LUX	0.546	SVK	0.463	BEL	0.473	FIN	0.531	FIN	0.560	GRC	0.599
4	AUT	0.536	BEL	0.541	FIN	0.689	DNK	0.564	AUT	0.564	LUX	0.464	DEU	0.485	SVN	0.533	LUX	0.563	AUT	0.600
5	USA	0.542	USA	0.549	DNK	0.689	FIN	0.572	SWE	0.566	DEU	0.470	AUT	0.490	ESP	0.535	DNK	0.573	FIN	0.608
6	FRA	0.548	SVK	0.558	FRA	0.702	LUX	0.589	BEL	0.568	HUN	0.472	FIN	0.494	USA	0.537	HUN	0.582	USA	0.621
7	SVN	0.549	ESP	0.569	AUT	0.710	HUN	0.598	FRA	0.590	BEL	0.476	SVN	0.494	HUN	0.541	SWE	0.601	BEL	0.626
8	GRC	0.550	SVN	0.572	DEU	0.716	NLD	0.606	FIN	0.592	CZE	0.477	DNK	0.495	SVK	0.553	ESP	0.607	FRA	0.630
9	BEL	0.552	DEU	0.579	SWE	0.726	ESP	0.613	DEU	0.596	NLD	0.479	ESP	0.496	DEU	0.561	USA	0.616	LUX	0.631
10	SVK	0.559	GBR	0.579	SVK	0.726	GBR	0.613	ESP	0.609	SVN	0.482	ITA	0.502	NLD	0.567	BEL	0.626	NLD	0.636
11	SWE	0.559	HUN	0.583	HUN	0.735	SVN	0.617	GBR	0.614	AUT	0.483	GRC	0.502	CZE	0.574	GBR	0.639	DEU	0.677
12	ESP	0.562	DNK	0.585	ESP	0.741	AUT	0.643	NLD	0.623	DNK	0.485	CZE	0.506	GBR	0.577	CZE	0.643	SVN	0.679
13	CZE	0.572	CZE	0.596	GRC	0.746	CZE	0.647	USA	0.627	GBR	0.487	FRA	0.506	BEL	0.577	DEU	0.651	HUN	0.702
14	FIN	0.578	ITA	0.605	USA	0.751	DEU	0.650	ITA	0.635	ESP	0.490	GBR	0.513	ITA	0.584	ITA	0.653	ESP	0.704
15	DEU	0.581	FIN	0.617	CZE	0.760	SVK	0.725	HUN	0.639	FRA	0.498	NLD	0.517	AUT	0.586	AUT	0.679	GBR	0.708
16	NLD	0.606	SWE	0.617	GBR	0.776	GRC	0.745	GRC	0.642	SWE	0.499	SVK	0.522	FRA	0.599	NLD	0.690	SVK	0.743
17	ITA	0.616	LUX	0.642	ITA	0.785	BEL	0.762	CZE	0.642	USA	0.511	SWE	0.528	LUX	0.618	SVK	0.761	CZE	0.756
18	LUX	0.639	NLD	0.649	LUX	0.810	ITA	0.778	SVK	0.727	FIN		HUN	0.539	GRC	0.686	GRC	0.773	ITA	0.801

Notes: Industries as follows A: Agriculture, B: Mining, C: Manufacturing, D: Electricity/Gas, E: Water Supply, F: Construction, G: Wholesale/Retail, H: Transportation, I: Accommodation/Food, J: Information/Communication, K: Financial, L: Real Estate, M: Professional/Scientific, N: Administrative, O: Public Administration/Defence, P: Education, Q: Health, R: Arts/Entertainment, S: Other services

Table 5: Intra -industry Ranking of Countries for PCA2 Index (Wage Premium & Net Profit Margin & Research and Development & HHI)

Part A	A		B		C		D		E		F		G		H		I	
median	0.325		0.249		0.539		0.259		0.229		0.299		0.372		0.260		0.264	
order	country	value	Country	Value	country	value	country	value	country	value	country	value	country	value	country	value	country	value
1	DNK	0.274	FRA	0.150	LUX	0.317	SVK	0.221	LUX	0.172	SWE	0.262	SWE	0.330	GBR	0.214	SWE	0.223
2	SWE	0.301	HUN	0.214	GRC	0.380	ITA	0.232	SVK	0.193	DNK	0.267	FIN	0.337	LUX	0.230	SVN	0.239
3	SVK	0.302	SVN	0.216	GBR	0.409	SVN	0.237	SVN	0.194	LUX	0.273	DEU	0.341	BEL	0.237	HUN	0.244
4	USA	0.302	DEU	0.228	FRA	0.451	BEL	0.246	ITA	0.207	DEU	0.274	USA	0.343	FRA	0.237	DNK	0.253
5	DEU	0.311	USA	0.232	USA	0.456	HUN	0.248	HUN	0.207	USA	0.276	HUN	0.348	USA	0.239	GBR	0.253
6	NLD	0.315	BEL	0.235	NLD	0.461	AUT	0.251	SWE	0.210	FRA	0.284	FRA	0.351	DNK	0.254	FIN	0.255
7	ITA	0.316	GRC	0.241	DNK	0.466	NLD	0.253	BEL	0.218	NLD	0.285	GBR	0.358	SWE	0.254	USA	0.256
8	FRA	0.321	ESP	0.247	ESP	0.474	FRA	0.256	DEU	0.221	BEL	0.292	SVN	0.362	AUT	0.257	LUX	0.262
9	CZE	0.324	CZE	0.248	BEL	0.531	LUX	0.259	FRA	0.229	FIN	0.297	LUX	0.370	DEU	0.259	DEU	0.264
10	LUX	0.326	FIN	0.251	ITA	0.547	DEU	0.263	DNK	0.232	HUN	0.301	CZE	0.374	ESP	0.262	BEL	0.264
11	GBR	0.333	SWE	0.251	SWE	0.600	GBR	0.277	CZE	0.244	SVN	0.305	DNK	0.379	HUN	0.263	FRA	0.270
12	BEL	0.346	GBR	0.262	AUT	0.639	CZE	0.278	ESP	0.244	AUT	0.306	ESP	0.395	NLD	0.266	NLD	0.286
13	SVN	0.362	ITA	0.262	SVK	0.667	DNK	0.280	NLD	0.244	ITA	0.316	BEL	0.398	SVN	0.268	SVK	0.295
14	HUN	0.364	SVK	0.263	HUN	0.746	FIN	0.287	AUT	0.257	CZE	0.324	AUT	0.400	FIN	0.275	ITA	0.305
15	AUT	0.368	AUT	0.279	FIN	0.746	GRC	0.288	FIN	0.259	GBR	0.331	ITA	0.420	ITA	0.282	CZE	0.314
16	FIN	0.375	LUX	0.280	DEU	0.754	SWE	0.295	GBR	0.275	ESP	0.343	NLD	0.425	CZE	0.284	AUT	0.318
17	ESP	0.386	DNK	0.344	SVN	0.757	ESP	0.299	GRC	0.291	GRC	0.343	SVK	0.438	SVK	0.297	ESP	0.339
18	GRC	0.408	NLD	0.345	CZE	0.849	USA		USA		SVK	0.375	GRC	0.440	GRC	0.303	GRC	0.353

Notes: Industries as follows A: Agriculture, B: Mining, C: Manufacturing, D: Electricity/Gas, E: Water Supply, F: Construction, G: Wholesale/Retail, H: Transportation, I: Accommodation/Food, J: Information/Communication, K: Financial, L: Real Estate, M: Professional/Scientific, N: Administrative, O: Public Administration/Defence, P: Education, Q: Health, R: Arts/Entertainment, S: Other services

Part B	J		K		L		M		N		O		P		Q		R		S	
median	0.273		0.277		0.387		0.326		0.265		0.248		0.261		0.281		0.259		0.264	
order	country	value	Country	value	country	Value	country	value	country	value	country	value	country	value	country	value	country	value	country	value
1	DNK	0.244	FRA	0.241	NLD	0.285	FIN	0.280	SVN	0.229	SWE	0.230	USA	0.188	HUN	0.241	SVN	0.224	DNK	0.233
2	AUT	0.247	AUT	0.247	SVN	0.334	DNK	0.281	LUX	0.231	AUT	0.231	LUX	0.212	SVK	0.244	FRA	0.226	SWE	0.245
3	SVN	0.253	SVK	0.257	BEL	0.336	USA	0.293	DNK	0.232	SVN	0.234	ITA	0.230	SVN	0.247	FIN	0.233	AUT	0.249
4	HUN	0.265	SVN	0.266	AUT	0.363	AUT	0.300	SWE	0.242	ESP	0.235	FRA	0.234	CZE	0.257	LUX	0.235	GRC	0.251
5	SVK	0.266	HUN	0.272	DNK	0.365	ESP	0.313	AUT	0.244	ITA	0.236	DEU	0.236	ESP	0.263	HUN	0.245	FIN	0.254
6	GRC	0.266	BEL	0.272	SWE	0.370	SWE	0.315	FIN	0.251	DEU	0.236	SWE	0.245	USA	0.266	DNK	0.247	USA	0.257
7	BEL	0.268	DEU	0.275	HUN	0.370	FRA	0.317	BEL	0.252	DNK	0.236	HUN	0.247	DEU	0.275	SWE	0.248	BEL	0.260
8	FRA	0.273	GRC	0.275	CZE	0.376	NLD	0.321	DEU	0.260	CZE	0.241	CZE	0.256	BEL	0.277	USA	0.255	FRA	0.261
9	GBR	0.273	ESP	0.276	SVK	0.386	LUX	0.321	ESP	0.261	GBR	0.248	SVN	0.258	ITA	0.281	ESP	0.258	LUX	0.262
10	ESP	0.273	FIN	0.278	FIN	0.389	SVN	0.331	FRA	0.268	NLD	0.248	FIN	0.264	FIN	0.281	BEL	0.261	NLD	0.266
11	DEU	0.275	CZE	0.278	ESP	0.390	DEU	0.333	GBR	0.269	BEL	0.256	SVK	0.266	AUT	0.282	GBR	0.265	SVN	0.282
12	FIN	0.277	SWE	0.284	DEU	0.401	GBR	0.335	ITA	0.270	HUN	0.258	BEL	0.268	LUX	0.282	CZE	0.271	DEU	0.289
13	CZE	0.277	DNK	0.285	LUX	0.405	CZE	0.336	CZE	0.270	FRA	0.274	NLD	0.273	GBR	0.285	DEU	0.273	ESP	0.294
14	NLD	0.285	USA	0.292	FRA	0.418	SVK	0.337	USA	0.272	GRC	0.284	GBR	0.274	NLD	0.292	ITA	0.275	GBR	0.295
15	USA	0.287	GBR	0.296	USA	0.436	HUN	0.353	GRC	0.272	LUX	0.311	AUT	0.282	SWE	0.301	NLD	0.287	HUN	0.297
16	ITA	0.292	ITA	0.298	ITA	0.448	GRC	0.358	HUN	0.278	SVK	0.317	ESP	0.286	FRA	0.307	AUT	0.288	SVK	0.313
17	SWE	0.293	NLD	0.341	GBR	0.471	BEL	0.401	NLD	0.298	USA	0.351	DNK	0.298	DNK	0.316	GRC	0.328	CZE	0.317
18	LUX	0.314	LUX	0.873	GRC	0.486	ITA	0.435	SVK	0.313	FIN		GRC	0.323	GRC	0.320	SVK	0.329	ITA	0.336

Notes: Industries as follows A: Agriculture, B: Mining, C: Manufacturing, D: Electricity/Gas, E: Water Supply, F: Construction, G: Wholesale/Retail, H: Transportation, I: Accommodation/Food, J: Information/Communication, K: Financial, L: Real Estate, M: Professional/Scientific, N: Administrative, O: Public Administration/Defence, P: Education, Q: Health, R: Arts/Entertainment, S: Other services

Table 6: Intra -industry Ranking of Countries for Wage Premium

Part A	A		B		C		D		E		F		G		H		I	
median	-71.377		52.911		18.087		84.700		15.313		-11.972		-13.627		4.672		-39.693	
order	country	value	Country	value	country	value	country	value	country	Value	country	value	country	value	country	value	country	value
1	SVN	-92.54	HUN	-7.17	SVN	-3.97	SWE	42.43	USA	-28.95	GRC	-39.39	ITA	-34.97	SVN	-6.31	NLD	-63.86
2	AUT	-91.97	FIN	-0.51	HUN	0.54	SVN	48.17	FIN	6.58	GBR	-31.88	NLD	-33.72	FIN	-5.60	DNK	-53.83
3	GRC	-89.46	LUX	6.20	CZE	2.37	DNK	51.24	HUN	6.78	HUN	-31.04	GRC	-31.12	ESP	-4.03	GRC	-52.92
4	BEL	-83.40	SWE	26.82	SVK	5.53	USA	52.77	SVN	7.88	ITA	-27.92	ESP	-28.55	SWE	-0.63	USA	-52.35
5	LUX	-81.32	FRA	29.70	LUX	6.92	FIN	57.35	SVK	8.90	SVN	-27.74	GBR	-27.04	NLD	-0.36	DEU	-52.20
6	ESP	-78.90	SVK	31.79	NLD	9.49	LUX	70.35	FRA	10.26	CZE	-27.20	LUX	-19.53	FRA	3.42	GBR	-51.71
7	FIN	-77.31	ESP	40.38	SWE	13.64	NLD	71.77	CZE	10.99	SVK	-23.86	FRA	-15.28	DEU	3.75	CZE	-44.49
8	USA	-73.26	BEL	42.50	GRC	14.51	GBR	71.78	DNK	11.64	LUX	-17.33	DNK	-14.46	DNK	4.39	BEL	-41.88
9	FRA	-72.96	SVN	45.66	FRA	17.45	HUN	82.39	LUX	15.02	NLD	-14.88	CZE	-13.89	HUN	4.46	SVK	-41.02
10	ITA	-69.80	CZE	60.16	ESP	18.72	CZE	87.02	SWE	15.60	ESP	-9.06	AUT	-13.36	CZE	4.89	LUX	-38.37
11	GBR	-67.59	AUT	61.62	DNK	18.74	SVK	99.31	AUT	20.38	FRA	-7.05	HUN	-13.29	GBR	9.35	SWE	-37.71
12	NLD	-67.39	ITA	63.70	ITA	21.00	FRA	102.50	ESP	23.86	BEL	-5.06	FIN	-12.37	SVK	11.56	AUT	-37.11
13	DEU	-66.40	DEU	96.43	FIN	24.87	DEU	120.54	NLD	25.30	DNK	-4.39	DEU	-11.89	AUT	14.07	SVN	-36.50
14	DNK	-65.49	DNK	99.61	AUT	30.96	ITA	121.44	DEU	32.65	DEU	-3.75	SVN	-7.21	ITA	17.70	FIN	-34.90
15	SWE	-56.60	USA	108.86	GBR	31.03	AUT	125.95	ITA	39.01	FIN	2.66	SVK	-6.05	LUX	18.66	ITA	-34.67
16	HUN	-48.78	GBR	122.38	BEL	48.17	GRC	145.53	GBR	52.28	SWE	3.14	USA	-3.49	GRC	20.18	FRA	-34.26
17	CZE	-29.77	GRC	127.39	USA	51.60	ESP	147.72	BEL	54.93	USA	3.99	SWE	0.37	BEL	29.91	HUN	-28.76
18	SVK	-28.94	NLD	137.33	DEU	54.31	BEL	187.91	GRC	104.78	AUT	5.17	BEL	4.65	USA	38.95	ESP	-24.45

Notes: Industries as follows A: Agriculture, B: Mining, C: Manufacturing, D: Electricity/Gas, E: Water Supply, F: Construction, G: Wholesale/Retail, H: Transportation, I: Accommodation/Food, J: Information/Communication, K: Financial, L: Real Estate, M: Professional/Scientific, N: Administrative, O: Public Administration/Defence, P: Education, Q: Health, R: Arts/Entertainment, S: Other services

Part B	J		K		L		M		N		O		P		Q		R		S	
median	61.424		82.315		-10.360		4.413		-23.530		33.698		18.104		-4.388		-21.594		-34.490	
order	country	value	country	value	country	value	country	value	country	value	country	value	country	value	country	value	country	value	country	value
1	NLD	27.62	FRA	50.26	ITA	-53.88	ITA	-42.26	NLD	-52.39	USA	-8.17	SWE	-23.01	NLD	-29.80	GBR	-45.38	ITA	-57.82
2	DNK	33.10	SWE	52.08	LUX	-36.79	GRC	-40.83	GBR	-37.22	SWE	5.02	SVK	-6.84	FRA	-23.65	NLD	-43.83	CZE	-50.08
3	FIN	36.87	SVN	55.64	CZE	-32.50	BEL	-37.06	DEU	-36.77	FRA	6.78	NLD	0.38	GBR	-21.02	SWE	-35.01	USA	-49.90
4	SVN	41.19	FIN	57.96	GRC	-32.11	SVN	-9.41	LUX	-31.41	FIN	11.91	GBR	1.85	DEU	-13.43	GRC	-32.19	GBR	-48.52
5	AUT	43.80	NLD	67.82	ESP	-26.05	AUT	-8.64	ESP	-27.15	ESP	18.04	HUN	7.95	DNK	-12.07	USA	-29.38	ESP	-47.31
6	ITA	45.23	DNK	71.00	AUT	-22.94	ESP	-3.02	FIN	-26.02	GBR	24.40	CZE	10.63	SWE	-8.54	DNK	-25.99	NLD	-44.64
7	LUX	46.08	AUT	72.68	DNK	-14.26	GBR	-1.85	USA	-26.00	DNK	25.52	DNK	11.42	BEL	-7.43	DEU	-25.85	SVN	-44.43
8	SWE	46.37	GBR	77.84	DEU	-13.60	CZE	-0.64	ITA	-25.85	AUT	29.37	FRA	13.72	LUX	-7.34	BEL	-22.10	HUN	-40.42
9	GBR	61.38	HUN	81.67	GBR	-11.06	SVK	1.89	SVN	-24.86	SVN	32.53	SVN	16.56	AUT	-5.28	FRA	-21.64	FRA	-36.24
10	FRA	61.47	DEU	82.96	USA	-9.66	NLD	6.93	CZE	-22.20	NLD	34.87	FIN	19.65	FIN	-3.49	AUT	-21.55	BEL	-32.74
11	DEU	62.04	CZE	89.48	BEL	-8.64	FIN	7.14	SVK	-22.19	BEL	41.03	AUT	31.84	SVK	0.08	CZE	-19.43	SVK	-31.11
12	SVK	66.94	SVK	91.63	HUN	-5.72	DEU	13.81	AUT	-20.91	HUN	45.41	DEU	33.57	HUN	3.71	ITA	-15.28	AUT	-28.62
13	ESP	71.44	BEL	95.96	FRA	-3.95	DNK	15.14	DNK	-20.09	CZE	46.33	ESP	33.91	CZE	4.57	FIN	-14.81	LUX	-28.18
14	BEL	81.24	LUX	97.17	SWE	-2.58	SWE	15.71	FRA	-19.24	DEU	48.92	ITA	36.89	USA	4.69	SVK	-6.44	DNK	-24.08
15	CZE	82.22	ITA	99.92	FIN	2.16	LUX	31.78	BEL	-16.76	SVK	57.92	BEL	47.11	SVN	12.77	LUX	-5.27	FIN	-23.84
16	HUN	87.21	USA	104.31	SVK	4.19	FRA	32.28	SWE	-15.76	LUX	58.35	GRC	49.38	GRC	13.27	ESP	-1.73	SWE	-22.47
17	USA	95.15	ESP	109.51	SVN	5.40	HUN	52.24	GRC	-10.32	ITA	83.43	LUX	72.31	ITA	17.95	HUN	-1.36	DEU	-22.26
18	GRC	104.69	GRC	166.79	NLD	12.03	USA	75.72	HUN	-1.82	GRC	87.80	USA	369.74	ESP	37.64	SVN	8.24	GRC	-19.62

Notes: Industries as follows A: Agriculture, B: Mining, C: Manufacturing, D: Electricity/Gas, E: Water Supply, F: Construction, G: Wholesale/Retail, H: Transportation, I: Accommodation/Food, J: Information/Communication, K: Financial, L: Real Estate, M: Professional/Scientific, N: Administrative, O: Public Administration/Defence, P: Education, Q: Health, R: Arts/Entertainment, S: Other services

Table 7: Intra -industry Ranking of Countries for Net Profit Margin

Part A	A		B		C		D		E		F		G		H		I	
median	0.578		0.251		0.224		0.317		0.125		0.331		0.298		0.163		0.258	
order	country	value	country	Value	country	value	country	value	country	value	country	value	country	value	country	value	country	value
1	DNK	0.300	FRA	-0.296	LUX	0.112	SVK	0.056	LUX	-0.186	SWE	0.163	SWE	0.168	GBR	-0.032	SWE	0.048
2	SWE	0.449	HUN	0.026	FRA	0.124	SVN	0.162	SVK	-0.081	DNK	0.203	SVN	0.221	LUX	0.025	SVN	0.124
3	USA	0.453	SVN	0.064	BEL	0.143	ITA	0.203	SVN	-0.075	LUX	0.206	DNK	0.225	BEL	0.030	HUN	0.163
4	SVK	0.464	DEU	0.174	SVN	0.153	HUN	0.249	HUN	-0.004	FRA	0.269	USA	0.240	FRA	0.074	GBR	0.179
5	NLD	0.495	BEL	0.174	DEU	0.165	FRA	0.267	SWE	0.018	DEU	0.269	GBR	0.242	DNK	0.098	USA	0.195
6	DEU	0.506	USA	0.188	GBR	0.184	NLD	0.286	ITA	0.018	USA	0.286	HUN	0.257	SWE	0.100	DNK	0.197
7	ITA	0.514	FIN	0.228	DNK	0.194	AUT	0.296	BEL	0.086	NLD	0.286	FRA	0.262	AUT	0.139	FIN	0.219
8	FRA	0.538	ESP	0.237	ITA	0.195	USA	0.301	DEU	0.090	FIN	0.299	DEU	0.272	USA	0.150	LUX	0.247
9	CZE	0.574	SWE	0.249	SWE	0.196	BEL	0.316	FRA	0.113	SVN	0.329	FIN	0.291	HUN	0.151	DEU	0.255
10	LUX	0.582	CZE	0.253	AUT	0.252	LUX	0.319	DNK	0.136	BEL	0.332	BEL	0.304	SVN	0.174	BEL	0.261
11	GBR	0.625	GRC	0.265	USA	0.261	DEU	0.361	CZE	0.195	ESP	0.334	AUT	0.319	ESP	0.193	FRA	0.286
12	BEL	0.680	SVK	0.317	FIN	0.267	CZE	0.381	ESP	0.206	AUT	0.336	ESP	0.351	DEU	0.195	NLD	0.361
13	HUN	0.710	ITA	0.322	ESP	0.290	GBR	0.407	NLD	0.212	HUN	0.383	CZE	0.365	NLD	0.203	SVK	0.431
14	SVN	0.738	GBR	0.361	NLD	0.292	DNK	0.408	USA	0.235	CZE	0.435	NLD	0.376	FIN	0.235	ITA	0.446
15	AUT	0.789	LUX	0.395	SVK	0.307	FIN	0.444	AUT	0.271	ITA	0.439	LUX	0.412	CZE	0.236	AUT	0.471
16	FIN	0.813	AUT	0.424	CZE	0.308	SWE	0.458	FIN	0.275	GBR	0.477	SVK	0.438	ITA	0.285	CZE	0.516
17	ESP	0.859	DNK	0.764	HUN	0.319	GRC	0.510	GBR	0.392	GRC	0.553	GRC	0.494	GRC	0.324	ESP	0.517
18	GRC	0.934	NLD	0.802	GRC	0.426	ESP	0.559	GRC	0.513	SVK	0.642	ITA	0.514	SVK	0.339	GRC	0.620

Notes: Industries as follows A: Agriculture, B: Mining, C: Manufacturing, D: Electricity/Gas, E: Water Supply, F: Construction, G: Wholesale/Retail, H: Transportation, I: Accommodation/Food, J: Information/Communication, K: Financial, L: Real Estate, M: Professional/Scientific, N: Administrative, O: Public Administration/Defence, P: Education, Q: Health, R: Arts/Entertainment, S: Other services

Part B	J		K		L		M		N		O		P		Q		R		S	
median	0.249		0.326		0.543		0.268		0.198		0.000		0.027		0.134		0.257		0.263	
order	country	value	country	value	country	Value	country	value	country	value	country	value	country	value	country	value	country	value	country	value
1	DNK	0.104	FRA	0.146	NLD	0.222	FRA	0.101	LUX	0.057	SVK	-0.002	DNK	0.002	SWE	0.027	FRA	0.076	DNK	0.107
2	AUT	0.154	AUT	0.154	BEL	0.371	SWE	0.168	SVN	0.066	HUN	0.000	BEL	0.004	DNK	0.042	SVN	0.082	SWE	0.165
3	SVN	0.182	BEL	0.252	SVN	0.432	DNK	0.176	DNK	0.075	GRC	0.000	USA	0.006	FIN	0.064	FIN	0.117	AUT	0.193
4	GBR	0.182	SVN	0.262	DNK	0.434	FIN	0.183	AUT	0.119	SWE	0.000	LUX	0.006	USA	0.094	DNK	0.132	GRC	0.204
5	FRA	0.212	USA	0.284	FIN	0.460	USA	0.205	SWE	0.130	FRA	0.000	SVN	0.007	SVN	0.096	LUX	0.139	USA	0.209
6	SWE	0.215	SVK	0.284	AUT	0.472	LUX	0.263	BEL	0.135	DEU	0.000	FIN	0.012	HUN	0.101	SWE	0.185	FIN	0.220
7	HUN	0.222	GBR	0.315	FRA	0.482	SVN	0.265	DEU	0.170	ESP	0.000	DEU	0.013	NLD	0.111	HUN	0.193	BEL	0.250
8	FIN	0.246	DNK	0.318	DEU	0.502	NLD	0.266	FIN	0.177	NLD	0.000	AUT	0.023	DEU	0.123	USA	0.230	FRA	0.253
9	SVK	0.247	DEU	0.321	ESP	0.542	ESP	0.266	FRA	0.185	AUT	0.000	CZE	0.026	SVK	0.125	ESP	0.254	NLD	0.255
10	USA	0.252	HUN	0.330	SWE	0.544	GBR	0.269	NLD	0.212	LUX	0.000	SWE	0.027	ESP	0.142	GBR	0.260	LUX	0.270
11	BEL	0.255	ESP	0.341	GRC	0.545	HUN	0.319	GBR	0.214	DNK	0.000	GBR	0.028	GBR	0.149	BEL	0.268	SVN	0.362
12	ESP	0.262	GRC	0.354	SVK	0.555	AUT	0.330	ESP	0.217	SVN	0.003	FRA	0.031	BEL	0.171	CZE	0.313	DEU	0.392
13	GRC	0.287	SWE	0.365	HUN	0.560	CZE	0.353	USA	0.264	GBR	0.003	SVK	0.036	CZE	0.184	DEU	0.321	ESP	0.417
14	DEU	0.293	FIN	0.374	CZE	0.579	DEU	0.383	ITA	0.283	BEL	0.003	NLD	0.037	AUT	0.196	ITA	0.344	HUN	0.424
15	NLD	0.298	CZE	0.375	USA	0.595	GRC	0.529	CZE	0.307	USA	0.007	ESP	0.040	FRA	0.199	NLD	0.389	GBR	0.426
16	CZE	0.303	ITA	0.414	ITA	0.605	SVK	0.550	GRC	0.326	CZE	0.014	ITA	0.060	ITA	0.228	AUT	0.398	SVK	0.539
17	ITA	0.352	NLD	0.470	GBR	0.652	BEL	0.576	HUN	0.332	ITA	0.014	GRC	0.080	LUX	0.272	GRC	0.610	CZE	0.541
18	LUX	0.409	LUX	0.499	LUX	0.694	ITA	0.607	SVK	0.514	FIN		HUN	0.103	GRC	0.472	SVK	0.623	ITA	0.638

Notes: Industries as follows A: Agriculture, B: Mining, C: Manufacturing, D: Electricity/Gas, E: Water Supply, F: Construction, G: Wholesale/Retail, H: Transportation, I: Accommodation/Food, J: Information/Communication, K: Financial, L: Real Estate, M: Professional/Scientific, N: Administrative, O: Public Administration/Defence, P: Education, Q: Health, R: Arts/Entertainment, S: Other services

Table 8a: Number of Industries and percent of country's GDP produced from Industries that are ranked above Intra-industry median value per Index of interest

PCA1 (wp & npm)			PCA2 (wp & npm & R&D & HHI)			Wage Premium			Net Profit Margin		
Country	Number of Industries above median Intra-industry value	% of GDP	Country	Number of Industries above median Intra-industry value	% of GDP	Country	Number of Industries above median Intra-industry value	% of GDP	Country	Number of Industries above median Intra-industry value	% of GDP
AUT	10	**57.29%**	AUT	10	**59.37%**	AUT	12	**64.61%**	AUT	10	**58.64%**
BEL	6	22.80%	BEL	8	39.31%	BEL	13	**80.59%**	BEL	9	48.74%
CZE	17	**90.15%**	CZE	14	**73.40%**	CZE	11	35.80%	CZE	18	**93.42%**
DEU	7	21.16%	DEU	8	**50.59%**	DEU	13	**69.86%**	DEU	6	21.31%
DNK	6	16.70%	DNK	7	40.35%	DNK	7	33.41%	DNK	4	10.82%
ESP	14	**77.35%**	ESP	12	**59.94%**	ESP	10	**53.84%**	ESP	14	**76.59%**
FIN	11	**56.24%**	FIN	13	**72.08%**	FIN	10	**71.45%**	FIN	8	41.07%
FRA	4	24.51%	FRA	5	37.04%	FRA	8	40.57%	FRA	3	16.45%
GBR	13	**62.76%**	GBR	13	**59.09%**	GBR	6	19.29%	GBR	13	**57.29%**
GRC	15	**80.25%**	GRC	15	**80.15%**	GRC	12	43.31%	GRC	18	**88.91%**
HUN	9	**53.70%**	HUN	9	**55.99%**	HUN	10	**53.02%**	HUN	9	**59.08%**
ITA	15	**71.65%**	ITA	14	**78.38%**	ITA	12	**54.16%**	ITA	15	**77.27%**
LUX	8	**58.85%**	LUX	7	**54.01%**	LUX	9	**52.69%**	LUX	10	**65.30%**
NLD	14	**69.63%**	NLD	14	**64.06%**	NLD	6	27.43%	NLD	11	**60.06%**
SVK	13	**79.09%**	SVK	12	**71.59%**	SVK	13	**59.11%**	SVK	13	**74.37%**
SVN	6	28.10%	SVN	6	44.78%	SVN	6	28.44%	SVN	4	15.38%
SWE	6	24.86%	SWE	6	42.17%	SWE	10	40.51%	SWE	5	21.16%
USA	6	39.70%	USA	8	40.58%	USA	12	**79.05%**	USA	6	44.42%
Total	180	60.54%	Total	181	60.86%	Total	180	53.80%	Total	176	62.95%

Table 8b: Countries meeting first criterion

PCA1 (wp & npm)	PCA2 (wp & npm & R&D & HHI)	Wage Premium	Net Profit Margin
AUT	**AUT**	**AUT**	**AUT**
CZE	**CZE**	*BEL*	**CZE**
ESP	**ESP**	*DEU*	**ESP**
FIN	**FIN**	**ESP**	**GBR**
GBR	**GBR**	**FIN**	**GRC**
GRC	**GRC**	**HUN**	**HUN**
HUN	**HUN**	**ITA**	**ITA**
ITA	**ITA**	***LUX***	***LUX***
LUX	***LUX***	**SVK**	**NLD**
NLD	**NLD**	*USA*	**SVK**
SVK	**SVK**		

Table 9a: Number of Industries in Top 5 and in Low 5 Intra-industry ranking per Index of interest

PCA1 (wp & npm)			PCA2 (wp & npm & R&D & HHI)			Wage Premium			Net Profit Margin		
Country	Number of Industries in Top 5	Number of Industries in Bottom 5	Country	Number of Industries in Top 5	Number of Industries in Bottom 5	Country	Number of Industries in Top 5	Number of Industries in Bottom 5	Country	Number of Industries in Top 5	Number of Industries in Bottom 5
AUT	6	6	AUT	7	7	AUT	3	3	**AUT**	6	4
BEL	1	6	BEL	1	3	**BEL**	8	2	BEL	2	6
CZE	7	0	**CZE**	5	1	CZE	2	3	**CZE**	10	0
DEU	2	5	DEU	1	5	**DEU**	5	3	DEU	2	3
DNK	2	10	DNK	4	8	DNK	3	4	DNK	2	12
ESP	5	1	**ESP**	5	3	ESP	5	6	ESP	4	0
FIN	6	6	**FIN**	5	4	FIN	4	7	**FIN**	5	4
FRA	2	6	FRA	3	6	FRA	3	4	FRA	1	10
GBR	7	4	**GBR**	6	3	GBR	3	7	**GBR**	6	4
GRC	11	3	**GRC**	14	2	**GRC**	11	7	**GRC**	13	2
HUN	3	5	HUN	5	9	**HUN**	6	5	HUN	4	5
ITA	12	3	**ITA**	9	4	**ITA**	8	5	**ITA**	14	1
LUX	6	8	LUX	4	7	**LUX**	6	5	LUX	6	7
NLD	7	2	**NLD**	8	1	NLD	2	9	**NLD**	7	2
SVK	10	4	**SVK**	9	6	**SVK**	5	3	**SVK**	8	4
SVN	1	9	SVN	1	11	SVN	4	9	SVN	1	13
SWE	4	8	SWE	3	7	SWE	7	7	SWE	1	10
USA	3	9	USA	5	8	**USA**	10	6	USA	3	8

Table 9b: Countries meeting second criterion

PCA1 (wp & npm)	PCA2 (wp & npm & R&D & HHI)	Wage Premium	Net Profit Margin
CZE	CZE	*BEL*	AUT
ESP	ESP	*DEU*	CZE
GBR	FIN	HUN	ESP
GRC	GBR	ITA	GBR
ITA	GRC	*LUX*	GRC
NLD	ITA	SVK	ITA
SVK	NLD	*USA*	NLD
	SVK		SVK

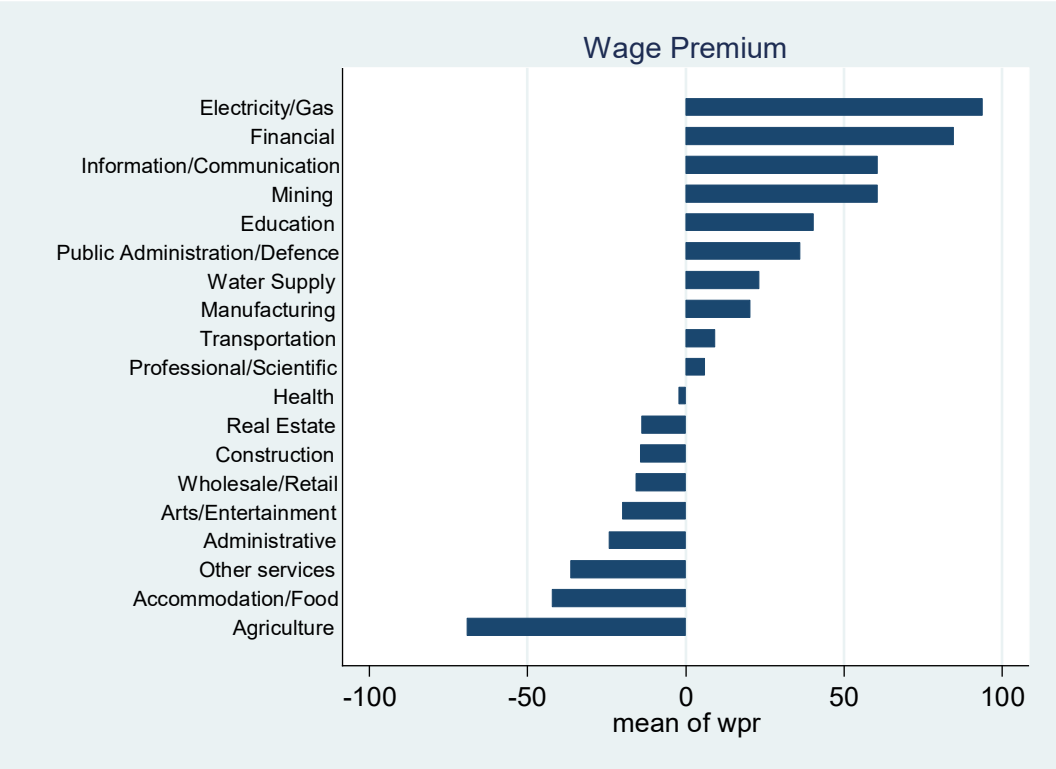


Figure 1: Wage Premium per industry

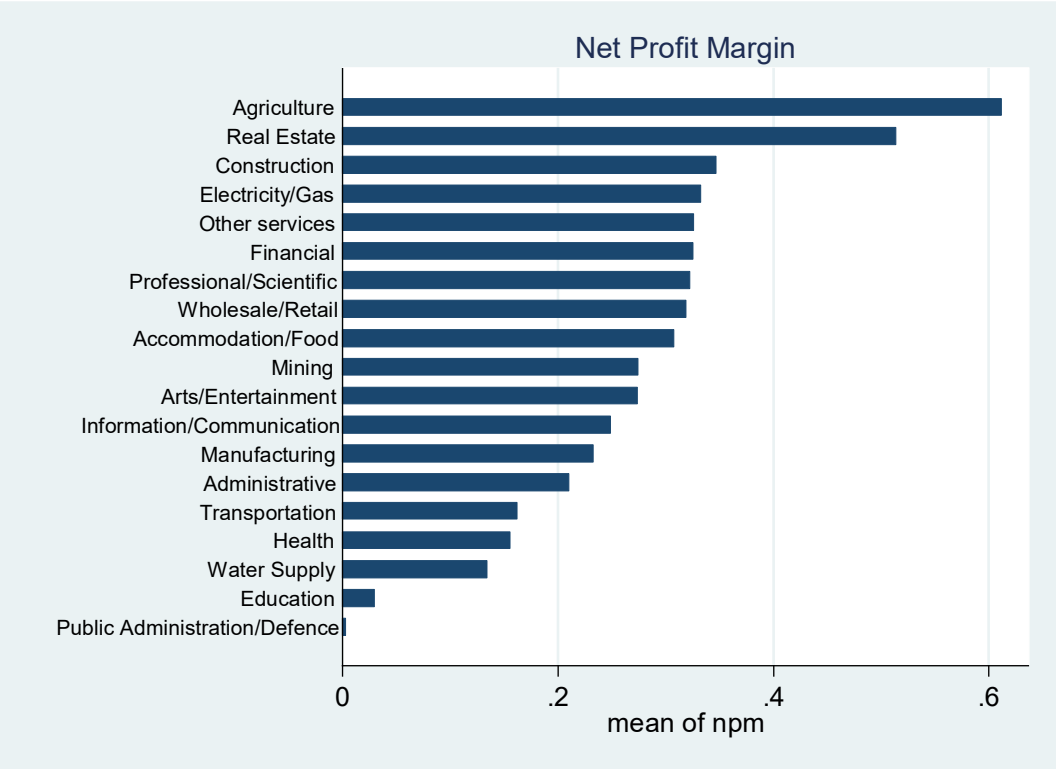


Figure 2: Net Profit Margin per industry

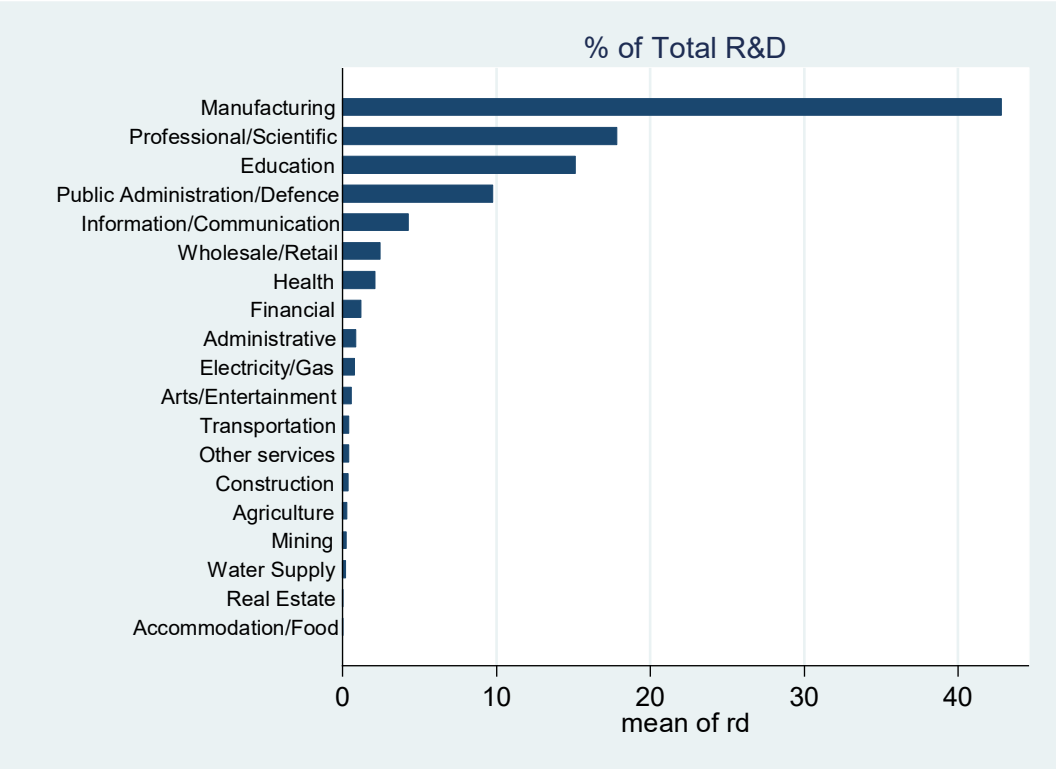


Figure 3: R&D, % of Total per indsutry

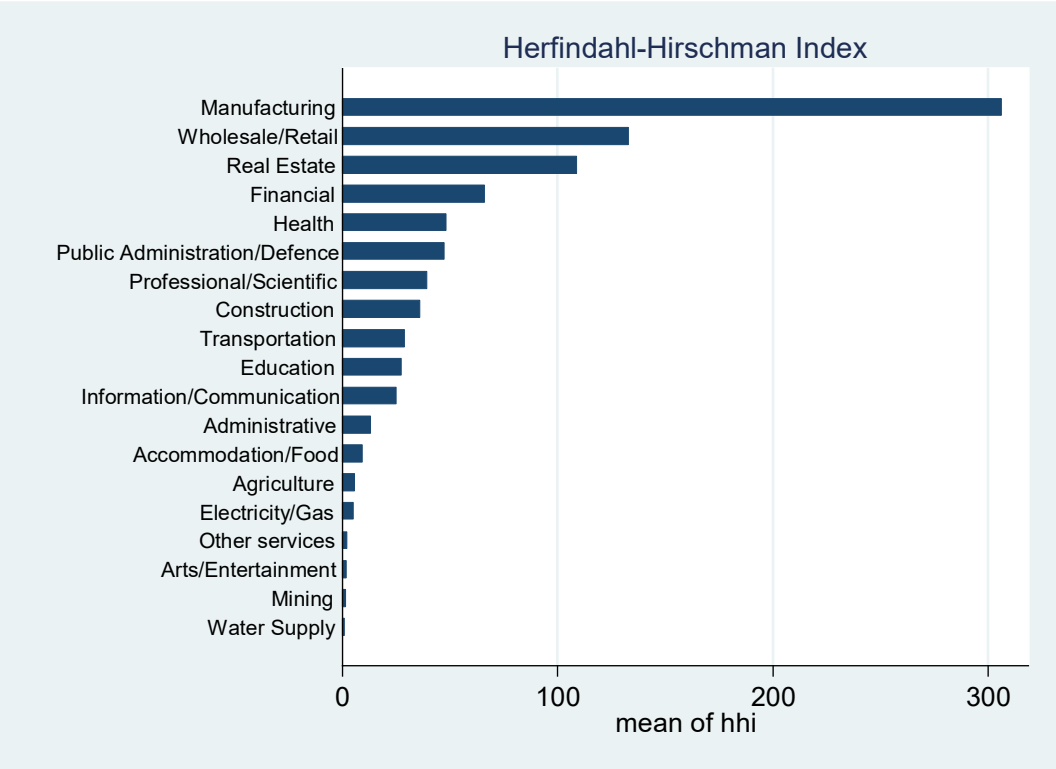


Figure 4: Herfindahl-Hirschman Index – Value Added

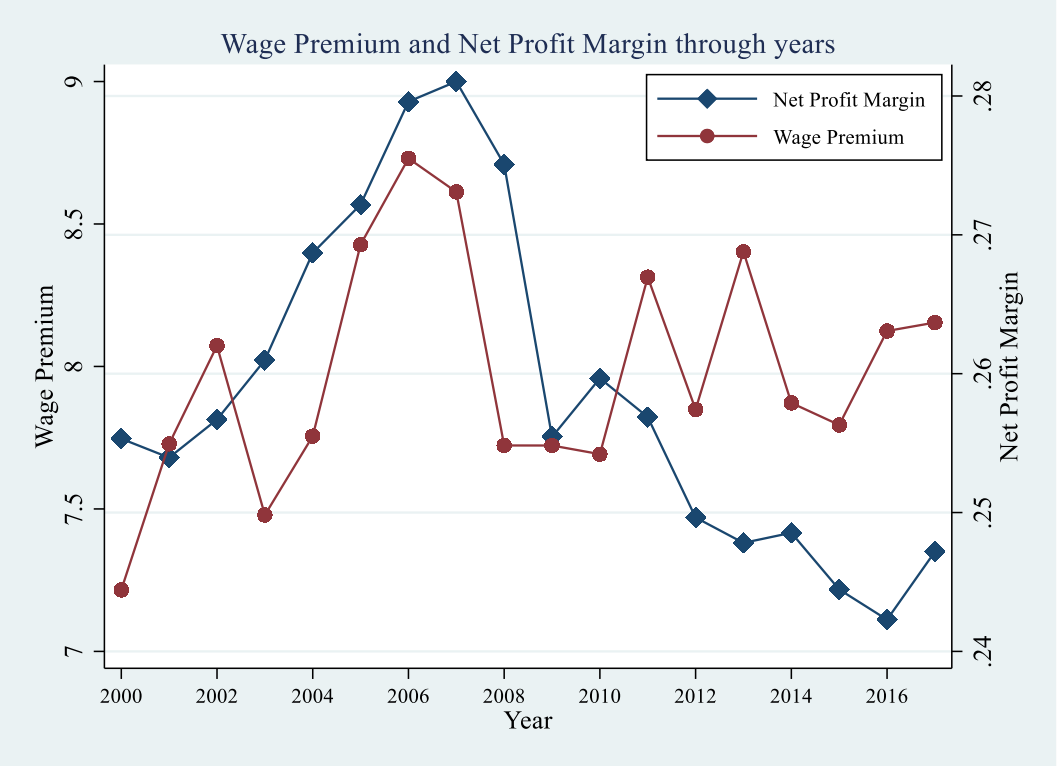


Figure 5: Wage Premium and Net Profit Margin through years

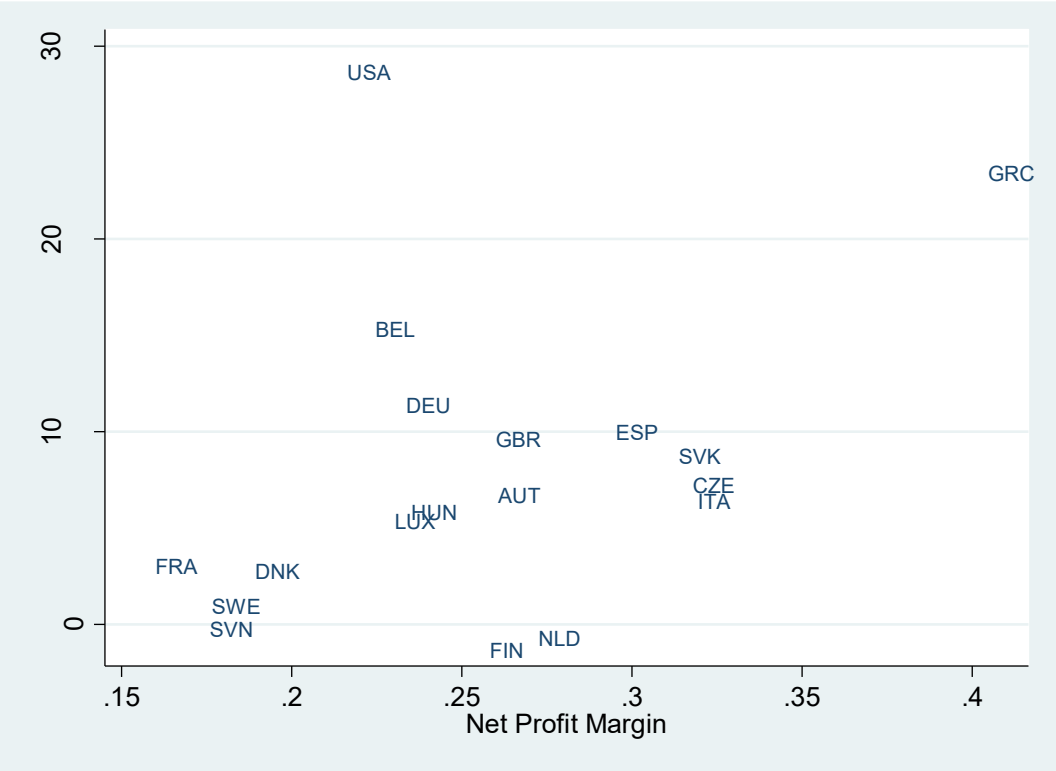


Figure 6: Scatterplot Wage Premium vs Net Profit Margin

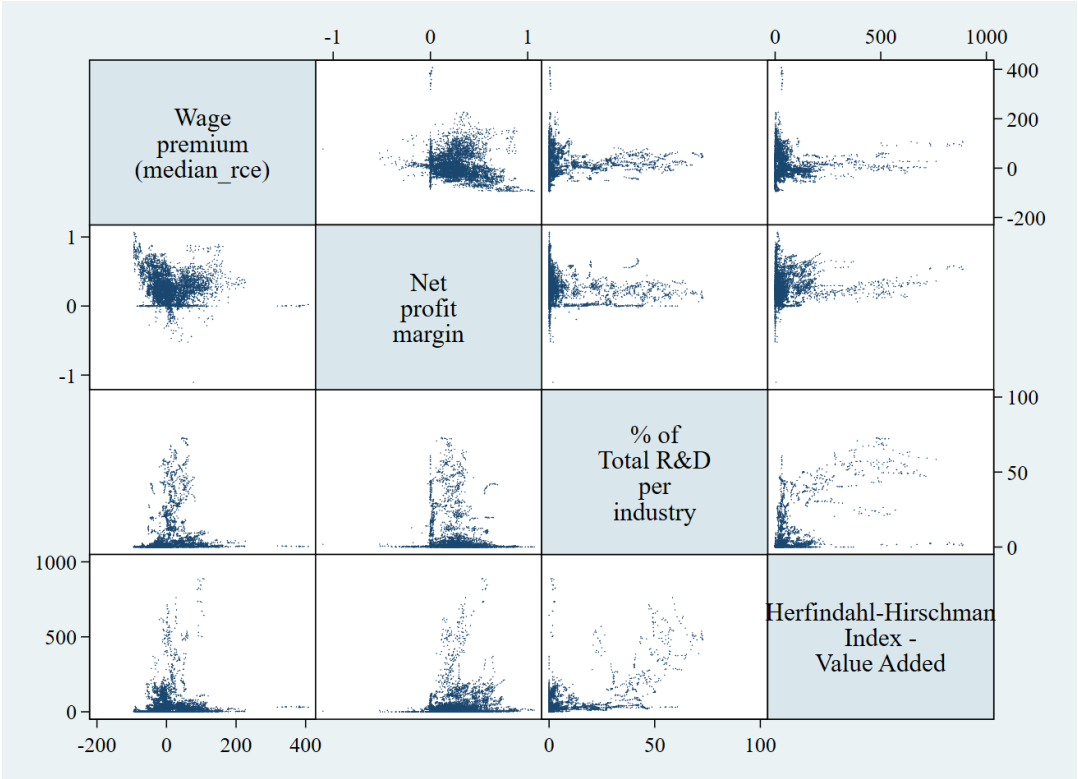


Figure 7: Scatterplot Matrix

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