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CAN INSTITUTIONAL FACTORS AND GOVERNMENT POLICIES MITIGATE THE IMPACT OF ECONOMIC SHOCKS ON YOUNG PEOPLE'S EMPLOYMENT PROSPECTS? THE CASE OF NEETS

Abstract: Numerous empirical studies have highlighted the important role played in European countries by macro-economic factors, such as institutional and structural contextual ones, in order to face the impact of economic shocks on growth in the number of NEETs (Not in Education, Employment or Training). The findings have revealed a rather heterogeneous framework at European level with some questions still open which the present paper attempts to answer. In particular, this paper explores, by means of a Principal Component Analysis, which macro-economic, institutional and contextual factors have more than others contributed to a decrease in the vulnerability of countries during the recent economic crisis, in terms of NEETs, and if the same factors also allowed recovery in the post-crisis period, therefore contributing to a substantial reduction in NEETs. This issue is particularly relevant in the European policy debate since, as the Council of European Union has pointed out, a significant rate of NEETs, that is young people at great risk of social exclusion, is expected to have negative effects on the economy and very high costs for Europe. The results call for more detailed reflection on those active labor market policies and appropriate strategies, to be shared at European level, which could stimulate demand for young employees for reducing the occurrence of NEETs. The analysis focuses on the decade 2004 -2014 in order to cover a complete economic cycle.

Keywords: economic shocks, European Union, macroeconomic factors, NEET, resilience.

1. Introduction

Since the beginning of the recent economic recession, the focus on NEETs (Not in Education, Employment or Training) in European policy debates has intensified and the term NEET is explicitly mentioned in the Europe 2020 agenda (European Commission, 2010a/b; Council of European Union, 2013).[1] As a matter of fact, being NEET has long-lasting implications for the individual, society and the economy as it may lead to a wide range of social negative outcomes in both the short and the long term, such as the high risk of poor living conditions and insecure future employment, criminality and mental and physical health problems (Eurofound, 2012).

The first full and inclusive description of the phenomenon at European level, was provided by Eurofound (2012). The report analyses its evolution during the period of the recent economic crisis and the role played by micro and macro-economic factors on the basis of the EU- Labour Force Survey (LFS), the European Values Study (EVS) and indicators from various macro data sources. The results highlight:

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[1] The term NEET, originating in the UK in the late 1980s, was formally introduced at political level in the UK in 1999 with the publication of the government's *Bridging the gap* report (England-Social Exclusion Unit, 1999) and the indicator corresponds to the percentage of the population of a given age group (between 16 and 29 years old) and sex who is not employed and not involved in further education or training. This indicator provides information on those young people who are disengaged from both work and education and are at a high risk of labour market and social exclusion.

- that the economic crisis has not affected all European countries with the same intensity as far as NEETs are concerned and,

- the crucial role on the rapid worsening of the phenomenon NEET played by both a mix of individual and family background factors such as, primarily, gender (females are at higher risk than men), low level of education, bad health status, low household income, immigration and poor family background, and macro-level factors such as institutional and structural contextual ones.

In particular, the macro-economic factors which seem to have played a very relevant role in increasing the youth NEET risk are: i) the strong regulations on temporary jobs, on the use, on maximum duration and maximum number of consecutive temporary contracts: ii) a low degree of coordination between unions, employers and the state: iii) low ALMP expenditures as well as, iv) a dysfunctional education system, a poorly designed vocational training (VT) system and an inefficient use of apprenticeship institutions.

These findings have further been confirmed by more recent studies (Dolado, 2015; Flisi et al., 2015; Marelli and Vakulenko, 2016) which have highlighted a rather heterogeneous framework at European level in the way countries have managed to tackle the recent economic crisis especially through the instruments adopted to mitigate the effects on the growth of unemployment and in particular of NEETs.

The heterogeneity among European countries in their ability to face the economic crisis as far as NEETs are concerned, came out very clearly also in a recent study by Santini (2017) where the author tried not only to reveal how profound the impact of the economic crisis was in European countries in terms of NEETs aged 25-29 years, but also to show which countries were more vulnerable to recessionary shocks and which countries have recently been able to recover from the crisis. The analysis, carried out by embracing the concept of resilience and applying a methodology suggested by Martin (2012) to EUROSTAT data, revealed that high levels of vulnerability during the economic crisis, which resulted in an exponential increase in NEETs, are not necessarily an essential precondition for a slow or even a lack of recovery from the crisis and vice-versa.[2] Therefore, some questions remain still open:

- which macro-economic, institutional and structural contextual factors have more than others contributed to reducing the vulnerability of countries during the recent economic crisis in terms of NEETs?

- have these factors also allowed recovery in the post-crisis period, and therefore a substantial reduction in the number of NEETs?

This issue is particularly relevant for the European policy debate, as social exclusion of young people, in particular young people in a NEET situation, can have negative consequences for the economy and significant costs for Europe (Council of European Union, 2013, p. 2). So, further investigation would allow us to have better knowledge of those macro-economic factors able to mitigate the impact of the crisis in terms of NEETs and to enhance the recovery process that is still under way and not strictly related to the incidence of NEETs as shown in Figure 1.

In particular, a Principal Component Analysis will be carried out so as to depict the main associations between macro-economic factors and the ability of the European countries "to resist" and "to recover from" the recent economic crisis in terms of NEETs. Specific attention will be devoted to 25-29 years old NEETs who are supposed to have completed their formal educational path. The results will call for reflection on those active labor market policies and appropriate strategies which could stimulate demand for young employees, to be shared at European level for reducing the occurrence of NEETs. The analysis focuses on the decade 2004-2014 in order to cover a complete economic cycle.

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[2] According to Martin (2012) there are two interrelated dimensions which help to describe how economies respond to recessionary or other such shocks. The first, called *resistance*, measures the vulnerability or sensitivity of an economy to disturbances and disruptions, such as recessions. The second, called *recovery*, measures the speed and extent of recovery from such a disruption. As Martin (2012) suggested a very simple way to measure the resistance (or vulnerability) of a country to shocks such as recession in terms of NEETs is to compare the variation in the NEET rate in each country with that recorded on average in Europe. The speed and extent of recovery from the shock (recovery) can be measured by evaluating the change in NEET rate in the post-recession period

Figure 1. NEETs 25-29 years old in EU27 (2016-%) and ability to recover (2014-2016) [3]
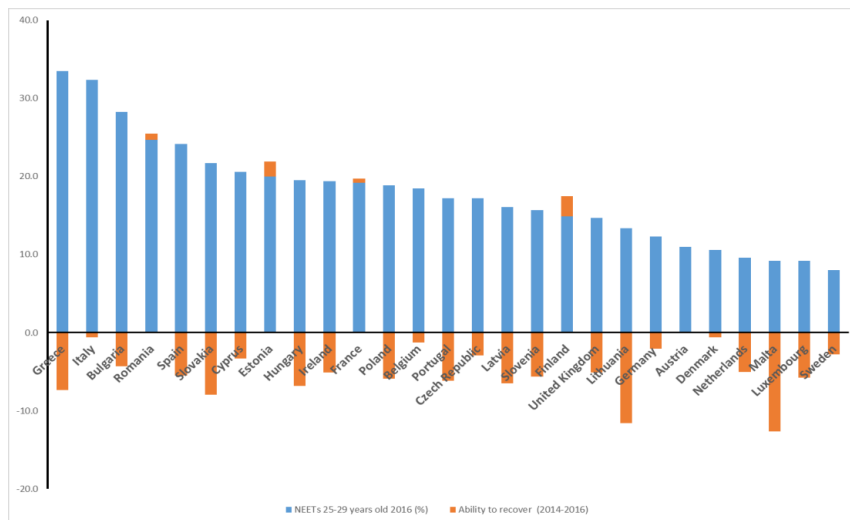
2. Data and methodology

2.1 Data

In addition to the indicators *Resistance* and *Recovery* obtained in a previous exploratory analysis (Santini, 2017) and which measure the two interrelated dimensions of ability of European countries to face recessionary shocks in terms of NEETs aged 25-29 years, a set of macroeconomic variables have been selected so as to reflect the important findings on those factors (policy, institutional, contextual and cyclical) which can have a direct and indirect role in shaping the probability of being unemployed/NEET for young adults (Scarpetta, 1996; Howell et al., 2007; Eurofound , 2012; Flisi et al., 2015) . The indicators for the period 2004-2014 were designed based on the rationale given below (see Table 1 in the Appendix for details).

2.2 Methodology

Figure 2 reports the percentage annual change in GDP in EU27. The figure shows that the economic crisis started in 2008, when a first strong contraction of GDP has occurred and, despite a brief upturn in 2010 and 2011, the economy seemed to recover slowly only in 2014.

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[3] The higher the decrease in the percentage of NEETs in the post-crisis period, the greater the ability to recover.

Figure 2. Gross domestic product at market prices (chained linked volumes 2010): percentage change compared with the previous year - EU27.
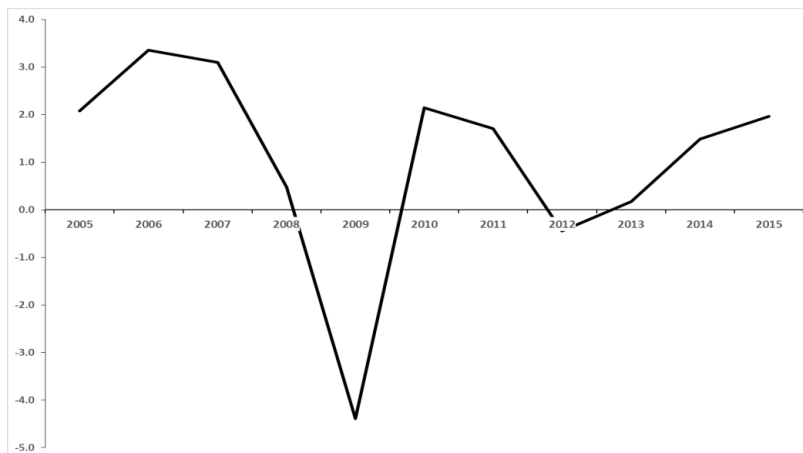
Since the aim of the present paper is to highlight similarities and dissimilarities between countries with reference to a set of continuous macroeconomic variables and the measures of *Resistance* and *Recovery*, the Principal Component Analysis (PCA) has been used. The goals of PCA are to:

(1) extract the most important information from the data table;
(2) compress the size of the data set by keeping only this important information;
(3) simplify the description of the data set;
(4) analyze the structure of the observations and the variables.

In order to achieve these goals, PCA computes new variables called *principal components* which are obtained as linear combinations of the original variables. The first principal component is required to have the largest possible variance (i.e., inertia and therefore this component will 'explain' or 'extract' the largest part of the inertia of the data table). The second component is computed under the constraint of being orthogonal to the first component and to have the largest possible inertia. The other components are computed likewise. The values of these new variables for the observations are called *factor scores*, and these factors scores can be interpreted geometrically as the *projections* of the observations onto the principal components (Lebart et al.,1984).

Two PCA were carried out. At first, specific attention was devoted to the ability of the European countries *to resist* the recent economic crisis in terms of NEETs. Since the degree of *resistance* is, to a great extent, the result of the interaction of the numerous policies, institutional and contextual factors that have characterized each country's economy both in the pre-crisis period (2004-2007) and during the economic crisis (2008-2013), the PCA was based on two sets of active variables:

(1) the macroeconomic indicators listed in Table 1 for the period 2004-2013;
(2) the measure of the ability to *resist* identified in a previous exploratory analysis (Santini, 2017).

Subsequently, our focus will be on the ability *to recover from* the recent economic crisis in terms of NEETs aged 25-29 years.

Since the ability to *recover* is, to a great extent, the result of the interaction of the numerous policies, institutional and contextual factors that have characterized the economies of the European countries both in the pre-crisis period (2004-2007), during the economic crisis (2008-2013) and partially during the post-crisis (2014), the PCA was based on two sets of active variables:

(1) the macroeconomic indicators listed in Table 1 for the period 2004-2014;

(2) the measure of the ability to *recover* identified in a previous exploratory analysis (Santini, 2017).

Both the analyses introduce as a supplementary variable the indicator WSYS (Welfare System Classification) in order to facilitate the interpretation of the results.

3. Results

The variability explained by the first three factorial axes of both the PCA is approximately equal to 50%. The interpretation of the results is limited in both cases to the first and the second factorial axes as they seem to provide answers to the questions this paper aims to investigate. The detailed description of each factorial axis is provided by Figures 3 and 4 as far as resistance is concerned and by Figures 5 and 6 as far as recovery is concerned.

By jointly analyzing Figures 3 and 4, it is possible to highlight that the first factorial axis opposes Northern, and to a lesser extent, Continental and Liberal countries (on the left side of Figure 4), and Transformation countries (on the right side of Figure 4).

The first group of countries is characterized by a strong presence of Governments through specific policies and direct measures targeting the labor market such as LMP expenditures and unemployment benefits
- in cash, addressed in particular throughout the period 2004-2013 to Vocational training (Cash_VOC-GDP) and Full employment (FULL-GDP) and
- in kind, designed for limited periods to Vocational Training -VOC-GDP -2007-2012 and Placement services-PLAC-GDP-2005-2013. Moreover, in the Northern countries forms of part-time employment are particularly relevant. On the contrary, Transformation countries are characterized by high levels of economic and demographic growth in the pre-crisis period.

The second factorial axis (vertical) can be interpreted as a measure of the ability of the European countries *to resist* the economic crisis in terms of NEETs aged 25-29 years. This ability increases moving along the axis from bottom upwards. It is immediately clear that higher levels of resistance are strongly associated with a significant degree of labour market deregulation, a greater openness to the international market (OPEN) and significant economic growth during the period 2011-2013 in terms of GDP and TFP. Economic growth has, therefore, characterized the countries that more than others have succeeded in *resisting* the economic crisis in terms of NEETs.

So, to sum up, the ability of a European country "to resist" the recent economic crisis in terms of NEETs, aged 25-29 years is:
(1) closely related to economic growth and increases when labour market regulations are less stringent and the size of the international trade of goods and services is greater, consistent with previous empirical evidence (Lee, 2000; Kim, 2011; Choudry et. al., 2012);
(2) negatively correlated with
   - the level of inflation and this can be due, as Choudry et al. (2012, p. 6) underlined, to "the fact that if the actual price level exceeds the expected price level, real wages are lower than expected, during the wage bargaining process, and consequently employment increases and unemployment decreases";
   - the degree of economic instability measured by the incidence of *Redundancy compensation* benefits and of temporary contracts and by the rate of unemployment and of inflation;
(3) and, finally, independent from the level of spending on active labour market policies and on some types of unemployment benefits
   - in cash, addressed in particular throughout the period 2004-2013 to Vocational training (Cash_VOC-GDP) and Full employment (FULL-GDP) and
   - in kind, designed for limited periods to Vocational Training - VOC-GDP-2007-2012 and Placement services-PLAC-GDP-2005-2013.

Figure 3. Principal Component Analysis: analysis of resistance - projection of active variables on F1 and F2
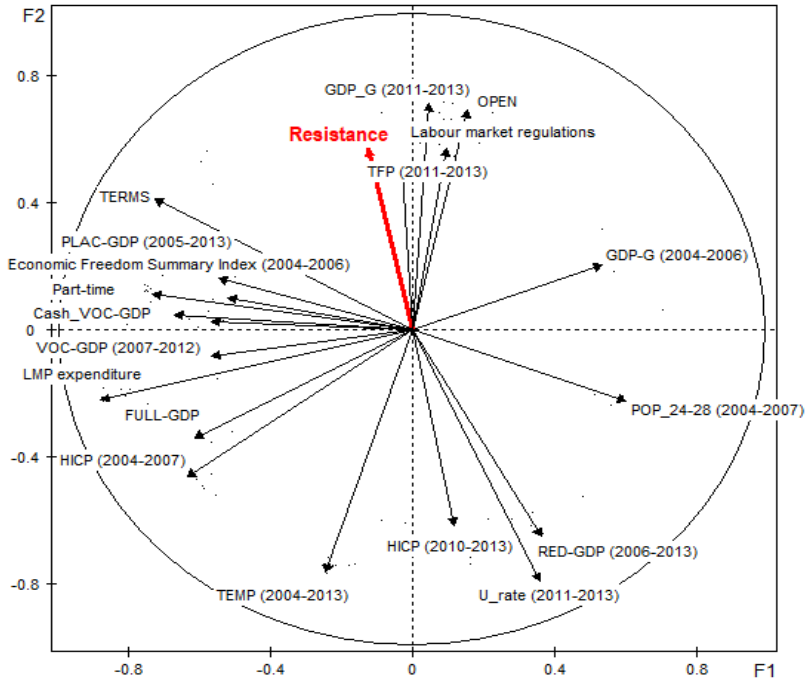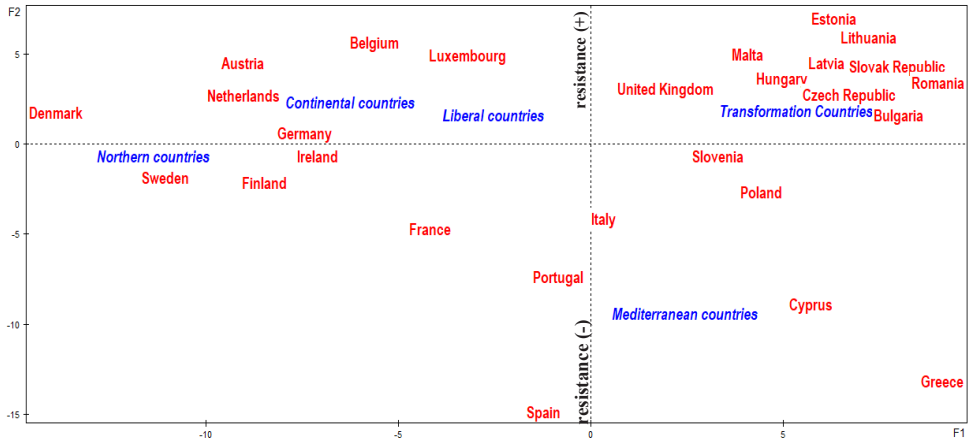

Figure 4. Principal Component Analysis: analysis of resistance - projection of EU countries on F1 and F2

By jointly analyzing Figures 5 and 6 it is possible to note that the first factorial axis can be interpreted as a measure of the ability of the European countries *to recover from* the recent economic crisis in terms

of NEETs. This ability increases moving along the axis from left to right and Figure 4 immediately reveals that this ability:

- decreases when public spending on labour market policies and on some types of unemployment benefits increases [in cash addressed in particular throughout the period 2004-2013 to Vocational training (Cash_VOC-GDP) and Full employment (FULL-GDP) and in kind designed for limited periods to Vocational Training (VOC-GDP -2007-2012) and Placement services (PLAC-GDP-2005-2013)];
- is independent from GDP growth, labour market regulations and the size of the international trade of goods and services and in general from the degree of economic stability.

It seems that the ability *to recover from* the economic crisis in terms of NEETs, which characterizes the countries on the right side of Figure 6, does not depend on economic growth/stability or on those active labor market policies which could stimulate demand for young employees. So, is the ability to recover perhaps related to the educational system? Or, maybe, do active labor market policies which could stimulate demand for young employees need to be rethought?

Figure 5. Principal Component Analysis: analysis of recovery - projection of active variables on F1 and F2
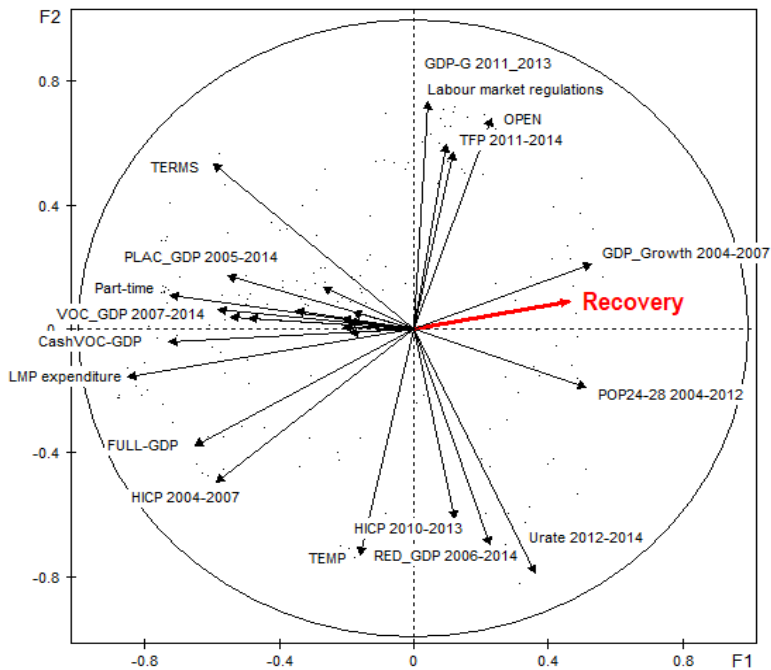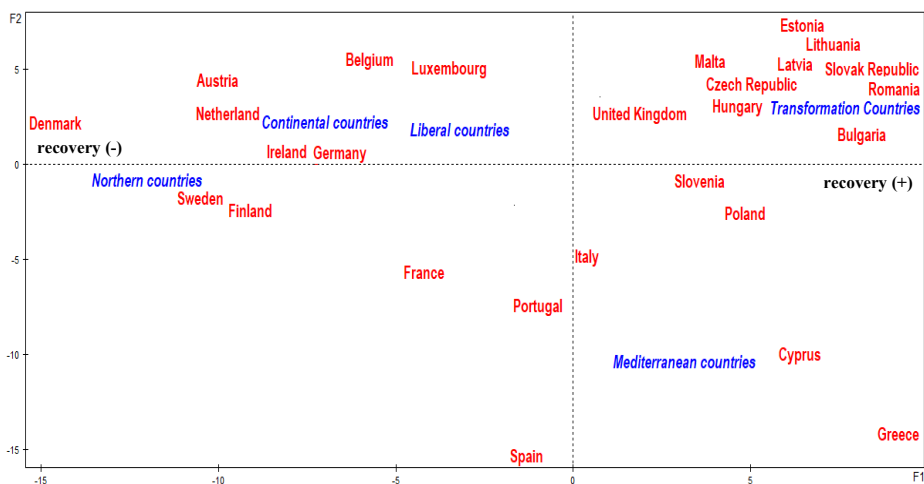
Figure 6. Principal Component Analysis: analysis of recovery - projection of EU countries on F1 and F2

4. Conclusions

The results obtained offer various stimuli for reflection on the content of active labour market policies and unemployment benefits for young people. As a matter of fact, the above exploratory analysis shows that both active labour market policies and unemployment benefits do not have any effect on the ability of European countries "to resist" the economic crisis in terms of NEETs and even exert a negative effect on the ability "to recover from" the economic crisis.

Thus, it is possible to confirm previous evidence: despite the widespread consensus on the importance attributed to the use of ALMP to fight youth unemployment, programs targeted at youths seem to lack effectiveness, contrary to what happens with programs targeted at the general population of unemployed. For a detailed review see Caliendo and Schmidl (2016). Therefore, we can affirm that active labor market policies which could stimulate demand for young employees need to be rethought.

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Appendix - Description of the macro-economic indicators

Table 1. Macroeconomic indicators

Label	Description	Source
A. POLICY VARIABLES AND INSTITUTIONAL FACTORS		
Label	Description	Source
A.1 LABOUR MARKET REGULATIONS		
LMR	Labor Market Regulations	Fraser Institute
A.2 ACTIVE LABOUR MARKET POLICIES		
LMP	*LMP expenditure by type of action (categories 2-7)* Percentage of gross domestic product (GDP)	Eurostat
A.3. UNEMPLOYMENT BENEFITS		
Benefits in cash		
FULL_GDP	Full unemployment benefits (in % of GDP)	Eurostat
PART_GDP	Partial unemployment benefits (in % of GDP)	Eurostat
EARLY_GDP	Benefits for early retirement benefit for labour market reasons (in % of GDP)	Eurostat
Cash_VOC_GDP	Cash benefit vocational training (in % of GDP)	Eurostat
RED_GDP	Redundancy compensation (in % of GDP)	Eurostat
	Benefits in kind	
MOB-GDP	Mobility and resettlement (in % of GDP)	Eurostat
VOC-GDP	Vocational training (in % of GDP))	Eurostat
PLACE-GDP	Placement services and job search assistance (in % of GDP)	Eurostat
NRR	Net Replacement Rates for six family types: initial phase of unemployment	OECD
A.4 CONTRACTS		
TEMP	Temporary contracts From 25 to 54 years Percentage of total employment	Eurostat
PART	Part-time contracts From 25 to 54 years Percentage of total employment	Eurostat
B. CONTEXTUAL AND CYCLICAL FACTORS		
POP_2428	% Population 24-28 years old previous year	Eurostat
GAPT	Gap between actual and trend gross domestic product at 2010 reference levels	AMECO
GDP-G	Annual GDP growth (%)	Eurostat
TFP	Total Factor Productivity Growth (Index 2010=100)	AMECO
TERMS	Terms of trade Export to import ratio	Eurostat
OPEN	Trade of goods and services as percentage of GDP Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.	Eurostat
U rate	Unemployment rate	Eurostat
HICP	Harmonized consumer price index (2015=100)	Eurostat
C. OTHER FACTORS		
WSYS	Welfare system classification	
EFI	Economic Freedom Index	Fraser Institute