Automation and the changing nature of work

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Abstract:

This study identifies the job attributes, and in particular skills and abilities, which predict the likelihood a job is recently automatable drawing on the Josten and Lordan (2020) classification of automatability, EU labour force survey data and a machine learning regression approach. We find that skills and abilities which relate to non-linear abstract thinking are those that are the safest from automation. We also find that jobs that require 'people' engagement interacted with 'brains' are also less likely to be automated. The skills that are required for these jobs include soft skills. Finally, we find that jobs that require physically making objects or physicality more generally are most likely to be automated unless they involve interaction with

'brains' and/or 'people'.

Keywords: Work, Automatability, Job skills, job abilities EU Labour Force Survey

1. Introduction

Research on the automation and the future of work has brought with it a range of research

contributions which seek to determine which occupations will be lost to automation. For

example, Frey and Osborne [1] estimate the susceptibility of occupations to computerisation

and find that 47% of US occupations are at risk of automation, and point to service jobs as

being susceptible to automation. Many other contributions in the automation literature rely on

defining automatable work through measures of the tasks associated with a particular

occupation rather than the occupation overall. One of the most prominent is owed to Autor and

Dorn [2] and Autor et al. [3] who define a job as automatable if it is high in routine task-

intensity. Specifically, routine task-intensity is defined based on how high a job ranks on

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routine content, and how low it ranks on abstract and manual content. Information on the routine, abstract and manual task content of each respective occupation comes from the US *Dictionary of Occupation Titles* where incumbents are asked to grade their occupation with respect to particular attributes. A job is then defined as automatable if it is in the top third of the distribution of routine task-intensity. This measure of automatable work has followed the big movements in the occupation distribution accurately over the last decades – namely the hollowing out of the middle of the occupational distribution [4]. To this end the types of occupations available have become more polarized, with the majority of occupations falling into high and low skill categories, and mid skill jobs disappearing in numbers [5].

While much of the automation literature relies on past employment data, the rapid progress on robotics, artificial intelligence (AI) and automation technologies has also motivated predicting automation developments in the near future [6,7]. The importance of this exercise is bellied in Lordan [8] and Lordan and Neumark [9] who suggest that new jobs are now being automated; particularly jobs traditionally at the bottom of the occupation distribution. Further, advances in AI and in particular machine learning will likely affect at least some tasks in most occupations and will hence also disrupt jobs at the top of the income distribution [10].

Concretely, Webb [5] studies the impact of automation on occupational tasks and matches information on job tasks to patents issued for robots, software and AI to identify which tasks can be automated by different technologies to derive an exposure to automation score. Using Google patents data, the O*NET database of occupations and tasks¹ and US census data, he first analyses the impact of his 'exposure to automation score on employment using historical

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¹ O*NET is a database of occupations and tasks published by the US Department of Labor that provides detailed descriptions of a large number of occupations and has been used frequently in the literature studying the impact of automation and technical innovation on employment [2,3,5,24].

data on robots and software patents and job descriptions and then repeats this exercise using patents on AI to predict future employment effects. AI is studied with respect to future developments as it is a relatively new phenomenon as compared to software and robotic innovations. While innovation on robots and software has mainly affected low skill and low wage occupations in the past, he finds that AI is increasingly predicted to disrupt high-skill occupations. Building on this work, Tolan et al. [11] link research intensity in AI to abilities required for specific job tasks using European survey data, O*NET data and AI benchmarking platforms. They find that jobs that were originally classified as non-automatable are increasingly affected by automation such as medical doctors. They find that abilities particularly affected by automation are abilities for idea creation while people abilities are less affected.

Lordan and Josten's [6] study is also forward-looking and takes the occupations classified by Autor and Dorn (2013) as given while reclassifying the remaining occupations as automatable depending on the number of patents recently available for each specific occupation thereby also predicting which jobs will be automated in the near future. They try to capture the most recent wave of automation by using patent developments in artificial intelligence, robots and automation more broadly as a proxy for technology that will be on the market shortly. If for any given occupation the authors find a large number of patents and find that successful patent pilots have been covered by the media, this occupation is classified as being on track to become automatable. This study builds on and uses the classification by Lordan and Josten [6] to analyse which job attributes and requirements predict the likelihood that a job is reclassified as automatable under their new definition. It thereby speaks to the literature on the automatability of tasks, skills and abilities.

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² A full list of the occupations classified as automatable by Lordan and Josten [6] can be found in S1 Table.

In particular we use the automatability indicator by Lordan and Josten [6] matched with employment data from the European Labor Force Survey (EU-LFS)³ and with data on the skills and abilities required on the job from O*NET. We then regress the automatability indicator on the skills and abilities respectively to analyse which skills and which abilities required in different occupations are susceptible to automation. This is then further linked to work by Lordan and Pischke [12] who capture the 'people', 'brains' and 'brawn' content of occupations with different risk of being automated; i.e. the extent to which an occupation involves people interaction, cognitive thinking skills or physicality respectively.

Identifying future job requirements by occupations is crucial to be able to quantify changes in demand for skills and abilities resulting from automation [13]. First, this information is relevant to policymakers and companies interested in the future of work. In particular, it informs on the skills and abilities required of workers in the near future as well as the activities they will likely be engaged in. Second, these findings further help conversations surrounding the reorganisation of education and other development activities to ensure the stock and flow of the relevant skills for the 4th industrial revolution. The returns to education are constantly increasing with the rise in technological progress with specific skills such as digital and noncognitive skills becoming particularly important [14]. Third, this information also helps to gain a more nuanced understanding of the exact aspects of the occupations at risk of automation and hence addresses criticism by Arntz et al. [15], among others, who find that focusing on the automatability of occupations rather than job tasks overstates the risk of automation and omits important aspects of the automation developments.

³ The EU-LFS covers employment statistics of households from EU member countries, Switzerland, Sweden and the UK quarterly.

2. Data

Job Level Abilities and Skills Proxies

To capture the abilities and skills required by occupations at the three-digit occupation level we draw on O*NET version 15. O*NET is an occupational database by the US Department of Labor that narrowly defines occupations with respect to the tasks and activities and the skills and abilities required on the job. This database has been used frequently in the automation literature both in the US and the UK (2,3,5,15). The difference in task content of occupations in the US versus the UK has been shown to be small, further justifying using this resource to classify occupation attributes using UK data [16,17].

Specifically, O*NET offers 80 distinct items in the abilities classification. The first column of Table 2 lists each of these items and column (2) provides a brief description of the item. The third column of Table 2 documents the secondary category a specific ability is in, while column (4) provides an overall category. In addition to abilities, O*NET offers 40 distinct items in the skills classification. Again the first column of Table 3 lists each of these items and column (2) provides a brief description each item. The third column documents the secondary category a specific ability is in, while column (4) provides an overall category. Given the large number of abilities (80) and skills (40) items, the secondary and overall category in columns (3) and (4) from Tables 2 and 3 will be utilised respectively for the interpretation of the analysis.

EU LFS and Lordan and Josten

Our analysis relies on data from Lordan and Josten [6] who match data from the European Labour Force Survey (EU-LFS) between 2013-2016 to their automation classification. The EU-LFS is conducted across all Member States of the European Union, Iceland, Norway,

Switzerland and the United Kingdom and consists of quarterly collected household data on employment. We include all countries that have data in the years we analysis, in additional to 3-digit occupation codes. A full list of the countries we include can be found in Table 1.

Lordan and Josten [6] match their definition of recently automatable jobs based on patents at the 3-digit code occupation level to the EU-LFS using crosswalks provided by Lordan and Pischke [12]. To derive the automation classification, Lordan and Josten [6] revise 216 occupations that have been classified as non-automatable by Autor and Dorn [3] and search for the occupation name together with either the term "robot", "automation," or "artificial intelligence" in Google patents and then also in Google News. Depending on the number of patents and/or news articles, an occupation is then classified as either fully automatable, polarized automatable (i.e. partially automatable) or non-automatable.

Table 1 shows the shares of automatable employment (i.e. polarised and fully automatable) by EU-LFS country. We first note that the Lordan and Josten [6] classifications suggest that a large share of jobs in every country is recently automatable. Specifically, Finland is the country that has the lowest share of jobs that are classified as recently automatable (approximately 21%). For the remaining Scandinavian countries (Norway, Sweden and Denmark), Table 1 suggests that about 37% of the jobs are automatable, similar to the shares for the Netherlands and Iceland. In contrast, for Croatia, Czech Republic, Italy and Latvia more than 50% of the jobs are recently automatable. Overall, Table 1 highlights that there is large variation in the share of occupations that can be automated across EU-LFS countries.

3. Methodology

The main analysis in this work relies on EU-LFS data. Our main analysis relies on an indicator

variable that is equal to 1 if an occupation is newly automatable under the Lordan and Josten [6] classification and 0 otherwise. Jobs that are denoted as automatable by Author and Dorn [2] are excluded from the analysis given that these jobs were classified as automatable based on O*NET occupation attributes (i.e. routine, manual and abstract tasks), so it would be mechanical that they relate to the O*NET attributes. In addition, this exclusion allows us to clarify the differences in skills and abilities between non-automatable jobs and newly automatable jobs. If these jobs were included this delineation would not be possible.

We proceed by regressing the indicator variable on each set of job attributes and skills respectively as provided by O*NET. We control for differences across country with a set of country fixed effects and for differences across time with a set of year fixed effects. We have two main sets of regressions. The first, regresses the automation indicator variable on the 80 ability domains and the second regresses it on the 40 skills domains. We apply Lasso regression analysis, a shrinkage and variable selection method for linear regression models. This approach is chosen as we wish to reduce the dimensionality of the abilities and skills variables under consideration. The goal of a lasso regression is to obtain the subset of predictors that minimizes prediction error for a quantitative response variable. The lasso does this by imposing a constraint on the model parameters that causes regression coefficients for some variables to shrink toward zero. Variables with a regression coefficient equal to zero after the shrinkage process are excluded from the model. That is, these variables do not explain variation in the propensity for a job to be recently automatable and will be shown with a value of zero in the results tables. The remaining variables with a negative sign are those that describe the core skills and abilities that are most likely to become redundant because of the most recent wave of automation. In contrast, the remaining variables with a positive sign describe the core skills and abilities that are most likely to become more valuable. All non-zero variables are

significant at the 1% significant level.

When estimating the lasso for the abilities attributes we include 60 abilities attributes, in addition to country and year fixed effects. Country fixed effects control for location specific factors that are time invariant. Given the small-time window we do not expect that time varying factors will distort our results.

4. Results

Abilities

The results from the pooled country analysis for abilities are documented in Table 2. We first note that the regression considering abilities explains 97% of the variation in the Lordan and Josten [6] automation indicator. That is, we can explain almost all of the variation in the indicator variable with these measures of ability. Second, if we take columns (3) and column (4) there is no single secondary or overall ability category that persistently has negative or positive signs. Rather, within each of these categories there are abilities that are becoming less important and others that are becoming more important. For example, arm-hand steadiness is a fine manipulative psychomotor ability (e.g. the ability to keep your hand and arm steady while moving your arm) that is highly unlikely to be automated given the estimates. In contrast, finger dexterity which is also a fine manipulative psychomotor ability (i.e. the ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects) is likely to be automated. Similarly, fluency of ideas is an idea generation and reasoning ability which relates to the ability to come up with a number of ideas about a topic (i.e. the number of ideas is important, not their quality, correctness, or creativity) which is highly unlikely to be automated. In contrast, problem sensitivity (i.e. recognizing that

there is a problem but not solving the problem) in the same category is highly likely to be automated.

Although it may seem counter-intuitive that within the same ability category there are pairs of abilities that are both automatable and non-automatable, the description of each item (see column (2) Table 2) highlights a logical theme. In general, an ability is automatable if it entails an underlying action that is repeatable or follows some logic. For example, control precision relies on adjusting controls quickly and repeatedly. The repetitive nature of this ability implies it is easily codifiable and machines have a comparative advantage in speed of execution. In contrast, speech recognition, which involves understanding spoken language, is unlikely to be automated. This finding is intuitive as it is difficult to predict what someone will say unless it entails common conversations such as those in telephone customer care. For example, customer care in banking now frequently utilise artificial intelligence to direct calls or provide bank balances but it is human operators that deal with complaints and other issues.

The overall conclusion from studying Table 2 is that jobs that are high on 'brains' (i.e. involve abstract thinking) are far less likely to be automated. In this case, 'brains' is short-hand for thinking and can involve reacting to other individuals (e.g. in caring or teaching professions), performing a service (e.g. as mechanic or fine dining waiter) or engaging in agile or creative thinking (e.g. in a leadership or knowledge worker role). Occupations that are predicted to be automated are low on 'brains' and high in routine contents. The abilities analysis is hence largely in line with the work by Author and Dorn [3] who predict that jobs that involve routine tasks will be automated. However, given that in this analysis we only focus on the occupations classified as non-automatable by Author and Dorn [3] it further reiterates

that automation has continued to make progress automating jobs that are high in routine content.

Skills

The results from the pooled country analysis for skills are documented in Table 3. This regression explains 84% of the variation in the Lordan and Josten [6] automation indicator. Analysing columns (3) and (4) of Table 3, the results are consistent with the analysis of abilities in that there is again no secondary or overall skills category that has a persistent negative or positive effect on the automation indicator. In addition and also consistent with the abilities analysis, there is a pattern which suggests that 'brains' (i.e. thinking and reacting) is becoming more important while on the job as compared to routine work.

For example, within the overall category of basic skills (see column 4), the O*NET item active learning is a skill that is more likely to be automated. This is consistent with machines being able to process a large amount of information quickly. However, the O*NET items critical thinking and monitoring of performance, which essentially involve using information that is available to pass judgement and make decisions, are less likely to be automated. Likewise, within cross functional skills, skills that centre around identifying potential problems, setting rules and gathering information are most likely to be automated (for example the O*NET items of time management, troubleshooting, operation monitoring, systems evaluation and management of human resources). In contrast, those skills that require manual actions (e.g. equipment maintenance), communicating information (for example instructing), active decision making (e.g. judgment and decision making and quality control analysis), leadership (e.g. persuasion) and knowledge work (e.g. systems analysis and technology design) are less likely to be automated.

A second notable pattern emerges if we reconsider Table 3. In general, the skills that require active interactions with people (i.e. implying that there is at least a two-way dialogue where an employee is reacting to the other person(s)) are not automatable. In essence, these jobs are an interaction between 'brains' and 'people' skills. In Table 3, these include active listening, instructing, monitoring and persuasion. This observation seems to suggest that jobs that involve 'people' interacted with 'brains' skills are also less likely to be automated.

Conclusion from the skills and abilities analysis

From the estimates documented in Table 2 and Table 3 we make the following three conclusions:

- 1. We can explain almost all of the variation in the jobs that are newly defined as automatable by Lordan and Josten [6] using the O*NET items of abilities or skills.
- 2. Jobs that require 'brains' (i.e. abstract and non-linear thinking) are far less likely to be automated as compared to jobs which require linear and codifiable thinking skills and abilities. At the top of the income distribution, jobs that require non-linear thinking may need critical thinking, decision-making and creativity. Elsewhere in the income distribution these jobs require skills that have been traditionally delivered in apprenticeships, from mechanics and carpenters to florists and hairdressers.
- 3. Jobs that require 'people' engagement interacted with 'brains' are also less likely to be automated. These jobs include management across all levels, co-ordinators of all types, teachers, carers and medical practitioners (including nursing). The skills and abilities that are required for these jobs include soft skills. The value of these skills in terms of adult outcomes has become a topic of recent writings in economics (for example Heckman and Kautz (2013) [18]; Kautz et al., (2014) [19] and Lordan and

McGuire (2019) [20]) and has been recently noted specifically as skills that will be needed in the advent of the fourth industrial revolution [8,21].

Activities

To summarise further the conclusions described in conclusions 2. and 3. from the skills and abilities analysis (i.e. that jobs which require 'brains' and 'people' interacted with 'brains' are those that are the least likely to be automated) we consider a third analysis on work activities and context of a person's occupation. This third analysis is a replication of Table 3 in Lordan and Josten [6]. We later go further than Lordan and Josten [6] and present these estimates separately for each country in our dataset to allow for cross country comparisons.

To replicate their work we first follow Lordan and Pischke [12] and create three factors that represent the 'people' 'brains' and 'brawn' content in each three-digit code occupation. That is:

- 1. 'People' is a variable which distils the information from many domains in activities and context that relate to having interactions with people on a day-to-day basis.
- 2. 'Brains' is a variable which distils the information from many domains in activities and context that relate to abstract thinking.
- 'Brawn' is a variable which distils the information from many domains in activities and context that relate to interacting physically with objects, including making them on a daily basis.

We then regress (using ordinary least squares (OLS)) our dummy representing whether a job is automatable on the 'people', 'brains' and 'brawn' variables. Consistent with Lordan and Josten [6]) we also interact the three variables with each other, implying we also include in our

regression people*brains, people*brawn and brains*brawn. We again control for fixed country differences and yearly differences in the regression. The results from this analysis are documented in Table 4.

Turning to Table 4, we can explain 42% of the variation in our automatable employment indicator with the three latent factors. The size and significance of the negative coefficient on the 'brain' factor strongly implies that jobs which require thinking are those that are safe from the most recent wave of automation. In addition, the interaction between the 'people' and 'brains' factors is negative and significant. This highlights that jobs which require thinking and social interactions are safer in the most recent wave of automation as compared to those that simply involve people interactions (as evidenced by the positive and significant coefficient on the 'people' factor). We note that the estimates in Table 4 imply that jobs that are high on 'brawn' content are those that are most likely to be automated in the most recent wave of automation. These jobs include making objects and physically lifting items. Overall, these conclusions align well with those that came from the abilities and skills analyses in Table 2 and Table 3 respectively as they highlight the importance of abstract thinking and the combination of abstract thinking and people skills.

Country-level analysis

S2 Appendix contains the estimates from tables 2 through 4 by country including all EU-LFS countries as depicted in Table 1. The differences across these estimates is driven only by differences in the occupation distribution for each country, while the classification of whether a job is recently automatable is fixed across time and country. We note that the separate analyses of skills and abilities for each country allows us to draw similar conclusions to the pooled country estimates in Table 2 and Table 3. That is, the abilities and skills that are

becoming more important relate to the ability and skill to use 'brains' for abstract, strategic and creative thinking and the ability and skill to use 'brains' when interacting with 'people'.

The 'people', 'brains' and 'brawn' categories allow us summarise the differences and commonalities across countries most succinctly. These are:

- 1. For all countries, jobs that are high on 'brains' are least likely to be automated in the most recent wave of automation.
- 2. For many countries the 'people' coefficient is also negative and significant, implying that jobs that are 'people' facing are relatively safe from automation, regardless of their interaction with 'brains' These countries are: Austria, Belgium, Cyprus, Czech Republic, Denmark, Germany, Estonia, Spain, France, Ireland, the Netherlands, Norway, Sweden.
- 3. For almost all countries there is a negative and significant relationship between the potential for automation and the 'people' and 'brains' interaction. The exceptions are Cyprus, Estonia, Ireland, Norway, Sweden and the UK. We note that for Estonia, Ireland, Norway and Sweden both the 'people' and 'brains' effects are independently negative and significant, highlighting that 'people' jobs in general are unlikely to disappear significantly. For Cyprus and the UK, the estimates suggest that 'brains' are the most important skills and abilities to develop given the current distribution of jobs.
- 4. In general, the brawn effect is positive and significant, implying that jobs that are high on 'brawn' content are at risk from automation. The exception of countries where this effect is negative are Cyprus, Czech Republic and Estonia.
- 5. The interaction effect between 'people' and 'brawn' is in general positive, significant but small in magnitude for just over half the countries in our study. In contrast, it is

negative and significant but small in magnitude for: Finland, France, Hungary, Ireland, Iceland, Latvia, Norway, Sweden, Slovakia and the UK. The difference seems to be driven by a relatively large number of jobs in these countries in the low end of the income distribution that require physical lifting and people (for example, cleaning and caring).

6. The interaction effect between 'brains' and 'brawn' is in general negative, significant but small in magnitude. There are only four exceptions. These are: Cyprus, Czech Republic and Ireland.

The differences in effects found at the country level likely reflect the fact that the structure of jobs and skills within country differ, coupled with each country being on a different trajectory with respect to automation. In addition, the policies that can protect jobs from automation also differ within country. A better understanding of such within country policies, coupled with their interaction with the labour market is an area for future research.

Conclusion

This study identifies the job attributes which predict the likelihood that a job is recently automatable. In particular, it looks at the i) abilities and ii) skills required on the job and how they link to automatability. A third analysis (iii) considers the 'people', 'brains' and 'brawn' content of an occupation, i.e. the extent to which an occupation involves people interactions, abstract thinking and physicality respectively. The three analyses are also done on a country level to see whether the impact of automatability on the labour market differs across countries.

Overall, we find that skills and abilities which relate to non-linear abstract thinking, which we term 'brains', are those that are the safest from automation. We also find that jobs that require 'people' engagement interacted with 'brains' are also less likely to be automated. The skills

and abilities that are required for these jobs include soft skills. Finally, we find that jobs that require physicality (e.g. creating objects manually) are most likely to be automated unless they involve interaction with 'brains' and/or 'people'.

These findings are in line with the literature on the growing importance of cognitive and social skills for the future of work. In particular, Deming [21] finds that the interaction between cognitive and social skills has seen greater wage and employment growth, which is comparable to our finding of the importance of 'brains' alongside 'people' skills and abilities. It also matches findings of studies that link skills endowments or demand for skills to labour market outcomes and find that social and cognitive skills are increasingly rewarded and that there is a complementarity across those two dimension [22,23].

Information and knowledge on future job requirements by occupations and by country is essential when trying to predict the demand for skills and abilities and activities going forward. It is important knowledge for policymakers and companies who can adapt policies and organisational settings regarding the future of work accordingly and ensure that individuals are prepared for current developments and what is yet to come. In particular, it informs conversations surrounding the re-organisation of education and other development activities to ensure that the stock and flow of skills are ready for the 4th industrial revolution. The returns to education are constantly increasing with the rise in technological progress with specific skills such as digital and non-cognitive skills becoming particularly important [14]. And this information also helps to gain a more nuanced understanding of the exact aspects of the occupations at risk of automation rather than just predicting automation overall and hence extends previous work. While we summarise our findings at the 'people', 'brains' and 'brawn' level, we still show and have briefly discussed the results by each O*NET abilities and skills

item, which is informative to the reader interested in specific aspects of occupations and their automatability.

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Table 1: Lordan and Josten (2020) shares of employment in 2013-2016 by country

	Recently Automatable
Austria	0.516
Belgium	0.443
Croatia	0.565
Cyprus	0.512
Czech Republic	0.516
Denmark	0.370
Estonia	0.458
Finland	0.207
France	0.478
Germany	0.474
Greece	0.574
Hungary	0.544
Iceland	0.374
Ireland	0.481
Italy	0.508
Latvia	0.525
Lithuania	0.527
Luxembourg	0.442
Netherlands	0.374
Norway	0.363
Portugal	0.485
Spain	0.474
Sweden	0.378
Slovakia	0.513
UK	0.405

Table 2: Abilities estimates

(1)	(2)	(3)	(4)	(5)
ONET Item	Description	Secondary category	Overall category	Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	-3.587
Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	0.000
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-2.381
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	1.663
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-4.904
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0.558
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	2.784
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-0.256
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	0.555

Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms,	Flexibility,	Physical	
	and/or legs.	balance and	Abilities	
		coordination		-2.347
Far Vision	The ability to see details at a distance.	Visual Abilities	Sensory	
			Abilities	-2.219
Finger Dexterity	Like	Fine manipulative	Psychomotor	
		abilities	abilities	2.169
Flexibility of	The ability to identify or detect a known pattern (a figure, object, word,	Perceptual	Cognitive	
Closure	or sound) that is hidden in other distracting material.	Abilities	abilities	0.000
Fluency of ideas	The ability to come up with a number of ideas about a topic (the	Ideas generation	Cognitive	
	number of ideas is important, not their quality, correctness, or	and reasoning	abilities	
	creativity).	abilities		-2.830
Glare sensitivity	The ability to see objects in the presence of glare or bright lighting.	Visual abilities	Sensory	
•			abilities	-3.635
Gross Body Co-	The ability to coordinate the movement of your arms, legs, and torso	Flexibility,	Physical	
ordination	together when the whole body is in motion.	Balance and	Abilities	
		Coordination		0.266
Gross Body	The ability to keep or regain your body balance or stay upright when in	Flexibility,	Physical	
Equilibrium	an unstable position.	Balance and	Abilities	
		Coordination		0.000
Hearing	The ability to detect or tell the differences between sounds that vary in	Auditory and	Sensory	
Sensitivity	pitch and loudness.	Speech abilities	Abilities	
		_		-1.139
Inductive	The ability to combine pieces of information to form general rules or	Idea Generation	Cognitive	
Reasoning	conclusions (includes finding a relationship among seemingly unrelated	and Reasoning	Abilities	
C	events).	Abilities		
				0.000
Information	The ability to arrange things or actions in a certain order or pattern	Idea Generation	Cognitive	
Ordering	according to a specific rule or set of rules (e.g., patterns of numbers,	and Reasoning	Abilities	
C	letters, words, pictures, mathematical operations).	Abilities		
				0.000

Manual Dexterity	The ability to quickly move your hand, your hand together with your	Fine Manipulative	Psychomotor	
	arm, or your two hands to grasp, manipulate, or assemble objects.	Abilities	Abilities	0.000
Math Reasoning	The ability to choose the right mathematical methods or formulas to	Quantitative	Cognitive	0.000
Main Reasoning	solve a problem.	Abilities	Abilities	
	Solve a problem.	Tronities	Tionnes	1.253
Memorization	Abilities related to the recall of available information	Quantitative	Cognitive	
		Abilities	Abilities	0.000
Multi Limb Co-	The ability to coordinate two or more limbs (for example, two arms,	Control movement	Psychomotor	
ordination	two legs, or one leg and one arm) while sitting, standing, or lying	abilities	Abilities	
	down. It does not involve performing the activities while the whole			
	body is in motion.			1.604
NI		NT 17'''	X7' 1	1.604
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0.000
Night Vision	The ability to see under low light conditions	Near Vision	Visual	0.000
Tylght vision	The ability to see under low light conditions	i i va vision	Abilities	3.025
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative	Cognitive	0.020
j		Abilities	Abilities	
				-1.817
Oral	The ability to listen to and understand information and ideas presented	Verbal Abilities	Cognitive	
Comprehension	through spoken words and sentences.		Abilities	
				0.000
Oral Expression	The ability to communicate information and ideas in speaking so others	Verbal Abilities	Cognitive	
0.1.1.11.	will understand.		Abilities	4.378
Originality		D 1	G 1.1	0.000
Perceptual Speed	The ability to quickly and accurately compare similarities and	Perceptual	Cognitive	
	differences among sets of letters, numbers, objects, pictures, or	Abilities	Abilities	
	patterns. The things to be compared may be presented at the same time			
	or one after the other. This ability also includes comparing a presented object with a remembered object.			-4.204
	object with a remembered object.			-4.204

Perceptual Vision	The ability to see objects or movement of objects to one's side when the	Visual Abilities	Sensory	
	eyes are looking ahead.		Abilities	0.713
Problem	The ability to tell when something is wrong or is likely to go wrong. It	Idea generation	Cognitive	
Sensitivity	does not involve solving the problem, only recognizing there is a	and Reasoning	Abilities	
	problem.	Abilities		
				2.190
Rate Control	The ability to time your movements or the movement of a piece of	Control	Psychomotor	
	equipment in anticipation of changes in the speed and/or direction of a	Movement	Abilities	
	moving object or scene.	Abilities		
				3.112
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a	Reaction Time and	Psychomotor	
	signal (sound, light, picture) when it appears.	Speed Abilities	Abilities	2.509
Response	The ability to choose quickly between two or more movements in	Control	Psychomotor	
Orientation	response to two or more different signals (lights, sounds, pictures). It	Movement	Abilities	
	includes the speed with which the correct response is started with the	Abilities		
	hand, foot, or other body part.			-4.984
Selective	The ability to concentrate on a task over a period of time without being	Attentiveness	Cognitive	
Attention	distracted.		Abilities	-0.963
Sound	The ability to tell the direction from which a sound originated.	Auditory and	Sensory	
Localisation		Speech Abilities	Abilities	-1.685
Spatial	The ability to know your location in relation to the environment or to	Spatial Abilities	Cognitive	
Orientation	know where other objects are in relation to you.		Abilities	1.051
Speech Clarity	The ability to speak clearly so others can understand you.	Auditory and	Sensory	
		Speech Abilities	Abilities	0.000
Speech	The ability to identify and understand the speech of another person.	Auditory and	Sensory	
Recognition		Speech Abilities	Abilities	-2.099
Speed of Closure	The ability to quickly make sense of, combine, and organize	Perceptual	Cognitive	
	information into meaningful patterns.	Abilities	Abilities	5.164
Speed of Limb	The ability to quickly move the arms and legs.	Reaction Time and	Psychomotor	
Movement		Speed Abilities	Abilities	-1.118

Stamina	The ability to exert yourself physically over long periods of time without getting winded or out of breath.	Endurance	Physical Abilities	
				0.557
Static Strength	The ability to exert maximum muscle force to lift, push, pull, or carry objects.	Physical Strength Abilities	Physical Abilities	0.679
Time Sharing	The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).	Attentiveness	Cognitive Abilities	2.796
Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	0.000
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	4.322
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-0.752
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	-1.251
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0.000
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	-0.295
R Squared = 0.97				2701297

Table 3: Skills estimates

(1)	(2)	(3)	(4)	(5)
ONET Item	Description	Secondary	Overall	Coefficient
		category	category	
Active Learning	Understanding the implications of new information for both current	Process	Basic Skills	
	and future problem-solving and decision-making.			1.630
Active Listening	Giving full attention to what other people are saying, taking time to	Content	Basic Skills	
	understand the points being made, asking questions as appropriate,			
	and not interrupting at inappropriate times.			0.608
Complex Problem	Identifying complex problems and reviewing related information to	Complex	Cross	
Solving	develop and evaluate options and implement solutions.	Problem Solving	Functional	
			Skills	-0.580
Coordination	Adjusting actions in relation to others' actions.	Social Skills	Cross	
			Functional	
			Skills	-6.025
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses	Process	Basic Skills	
	of alternative solutions, conclusions or approaches to problems.			-3.233
Equipment	Performing routine maintenance on equipment and determining	Technical Skills	Cross	
Maintenance	when and what kind of maintenance is needed.		Functional	
			Skills	-0.504
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross	
			Functional	
			Skills	0.000
Installation	Installing equipment, machines, wiring, or programs to meet	Technical Skills	Cross	
	specifications.		Functional	
			Skills	0.540
Instructing	Teaching others how to do something.	Social Skills	Cross	
			Functional	
			Skills	-2.752

Judgement and	Considering the relative costs and benefits of potential actions to	Systems Skills	Cross	
Decision Making	choose the most appropriate one.		Functional	
_			Skills	2.775
Learning Strategies	Selecting and using training/instructional methods and procedures	Systems Skills	Cross	
	appropriate for the situation when learning or teaching new things.		Functional	
			Skills	0.000
Management of	Determining how money will be spent to get the work done, and	Resource	Cross	
Financial Resources	accounting for these expenditures.	Management	functional	
		Skills	Skills	0.000
Management of	Obtaining and seeing to the appropriate use of equipment, facilities,	Resource	Cross	
Material Resources	and materials needed to do certain work.	Management	functional	
		Skills	Skills	-1.262
Management of	Motivating, developing, and directing people as they work,	Resource	Cross	
Personnel Resources	identifying the best people for the job.	Management	functional	
		Skills	Skills	2.264
Mathematics	Using mathematics to solve problems.	Content	Basic Skills	0.000
Monitoring	Monitoring/Assessing performance of yourself, other individuals, or	Process	Basic Skills	
	organizations to make improvements or take corrective action.			-4.676
Negotiation	Bringing others together and trying to reconcile differences.	Social Skills	Cross	
			functional	
			Skills	1.967
Operation Monitoring	Watching gauges, dials, or other indicators to make sure a machine	Technical Skills	Cross	
	is working properly.		Functional	
			Skills	1.831
Operation and Control	Controlling operations of equipment or systems.	Technical Skills	Cross	
			Functional	
			Skills	0.000
Operations Analysis	Analyzing needs and product requirements to create a design.	Technical Skills	Cross	
-			Functional	
			Skills	-1.091

Persuasion	Persuading others to change their minds or behavior.	Social Skills	Cross	
			functional	
			Skills	-0.827
Programming	Writing computer programs for various purposes.	Technical Skills	Cross	
			functional	
			Skills	0.000
Quality Control	Conducting tests and inspections of products, services, or processes	Technical Skills	Cross	
Analysis	to evaluate quality or performance.		functional	
•			Skills	0.000
Reading	Understanding written sentences and paragraphs in work related	Content	Basic Skills	
Comprehension	documents.			
1				-2.474
Repairing	Repairing machines or systems using the needed tools.	Technical Skills	Cross	
1 0			Functional	
			Skills	-0.935
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
				1.044
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross	
			Functional	
			Skills	-0.854
Social Perceptiveness	Being aware of others' reactions and understanding why they react	Social Skills	Cross	
1	as they do.		Functional	
			Skills	0.000
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	1.235
System Analysis	Determining how a system should work and how changes in	Systems Skills	Cross	
•	conditions, operations, and the environment will affect outcomes.		Functional	
			Skills	-2.530
System Evaluation	Identifying measures or indicators of system performance and the	Systems Skills	Cross	
•	actions needed to improve or correct performance, relative to the		Functional	
	goals of the system.		Skills	4.365

Technology Design	Generating or adapting equipment and technology to serve user	Technical Skills	Cross	
	needs.		Functional	
			Skills	-2.203
Time Management	Managing one's own time and the time of others.	Resource	Cross	
		Management	Functional	
		Skills	Skills	4.214
Troubleshooting	Determining causes of operating errors and deciding what to do	Technical Skills	Cross	
	about it.		Functional	
			Skills	0.000
Writing	Communicating effectively in writing as appropriate for the needs	Content	Basic Skills	
_	of the audience.			
				1.686
R squared = 0.84			N=	2701297

Table 4: 'People', 'brains' and 'brawn' estimates

Variable	Marginal effect
People	0.009***
	(0.000)
Brains	-0.070***
	(0.000)
Brawn	0.032***
	(0.000)
People * Brains	-0.002***
	(0.000)
People* Brawn	0.003***
	(0.000)
Brains* Brawn	0.000***
	(0.000)
N	2,698,151
R squared	42%

Notes *, **, *** denotes significance at the 10%, 5% and 1% levels respectively.

SUPPORTING INFORMATION

S1 Table: Occupations Classified by Josten and Lordan (2020) as automatable

S2 Appendix. Individual Country Analysis.

S1 Table: Occupations Classified by Josten and Lordan (2020) as automatable

Occupation	Lordan and Josten
Chief executives, public administrators, and legislators	Non- Automatable
Financial managers	Automatable
Human resources and labour relations managers	Automatable
Managers and specialists in marketing, advert., PR	Automatable
Managers in education and related fields	Non- Automatable
Managers of medicine and health occupations	Non- Automatable
Managers of properties and real estate	Non- Automatable
Funeral directors	Fully Automatable
Managers and administrators, n.e.c.	Non- Automatable
Accountants and auditors	Fully Automatable
Insurance underwriters	Fully Automatable
Other financial specialists	Fully Automatable
Management analysts	Non- Automatable
Personnel, HR, training, and labour rel. specialists	Automatable
Purchasing agents and buyers of farm products	Fully Automatable
Buyers, wholesale and retail trade	Non- Automatable
Purchasing managers, agents, and buyers, n.e.c.	Non- Automatable
Business and promotion agents	Non- Automatable
Construction inspectors	Non- Automatable
Inspectors and compliance officers, outside	Non- Automatable
Management support occupations	Automatable
Architects	Non- Automatable
Aerospace engineers	Non- Automatable
Metallurgical and materials engineers	Non- Automatable
Petroleum, mining, and geological engineers	Non- Automatable
Chemical engineers	Non- Automatable
Civil engineers	Non- Automatable
Electrical engineers	Non- Automatable
Industrial engineers	Non- Automatable
Mechanical engineers	Non- Automatable
Engineers and other professionals, n.e.c.	Non- Automatable
Computer systems analysts and computer scientists	Non- Automatable
Operations and systems researchers and analysts	Non- Automatable

Actuaries Fully Automatable Mathematicians and statisticians Non- Automatable Physicists and astronomists Non- Automatable Chemists Non- Automatable Atmospheric and space scientists Non- Automatable Geologists Non- Automatable Physical scientists, n.e.c. Fully Automatable Agricultural and food scientists Non- Automatable Biological scientists Non- Automatable Foresters and conservation scientists Non- Automatable Medical scientists Non- Automatable Physicians Non- Automatable **Dentists** Non- Automatable Veterinarians Non- Automatable Automatable **Optometrists** Non- Automatable **Podiatrists** Non- Automatable Other health and therapy occupations Non- Automatable Registered nurses **Pharmacists** Automatable Dieticians and nutritionists Fully Automatable Respiratory therapists Non- Automatable Occupational therapists Non- Automatable Physical therapists Non- Automatable Speech therapists Automatable Therapists, n.e.c. Non- Automatable Physicians' assistants Automatable Non- Automatable Subject instructors, college Non- Automatable Kindergarten and earlier school teachers Non- Automatable Primary school teachers Secondary school teachers Non- Automatable Non- Automatable Special education teachers Teachers, n.e.c. Non- Automatable Vocational and educational counselors Non- Automatable Librarians Automatable

Archivists and curators

Economists, market and survey researchers

Non- Automatable
Non- Automatable

Psychologists

Non- Automatable
Social scientists and sociologists, n.e.c.

Urban and regional planners

Non- Automatable
Social workers

Non- Automatable
Clergy and religious workers

Non- Automatable

Non- Automatable

Lawyers and judges Automatable

Welfare service workers

Writers and authors Non- Automatable Technical writers Non- Automatable Non- Automatable Designers Non- Automatable Musicians and composers Actors, directors, and producers Non- Automatable Painters, sculptors, craft-artists, and print-makers Fully Automatable Photographers Fully Automatable Dancers Non- Automatable

Art/entertainment performers and related occs

Editors and reporters

Non- Automatable

Announcers

Non- Automatable

Athletes, sports instructors, and officials

Automatable

Clinical laboratory technologies and technicians

Dental hygienists

Fully Automatable
Fully Automatable
Health record technologists and technicians

Fully Automatable
Radiologic technologists and technicians

Fully Automatable
Licensed practical nurses

Non- Automatable

Health technologists and technicians, n.e.c. Automatable

Engineering technicians Non- Automatable
Drafters Fully Automatable

Surveryors, cartographers, mapping scientists/techs

Automatable
Biological technicians

Chemical technicians

Automatable

Other science technicians

Automatable

Airplane pilots and navigators

Automatable

Air traffic controllers Fully Automatable

Broadcast equipment operators Automatable

Computer software developers

Non- Automatable

Programmers of numerically controlled machine tools

Non- Automatable

Legal assistants and paralegals Fully Automatable

Technicians, n.e.c. Automatable

Sales supervisors and proprietors

Non- Automatable

Insurance sales occupations Fully Automatable

Real estate sales occupations Fully Automatable

Financial service sales occupations Fully Automatable

Advertising and related sales jobs Fully Automatable

Sales engineers Non- Automatable

Salespersons, n.e.c. Non- Automatable

Retail salespersons and sales clerks

Cashiers

Non- Automatable
Fully Automatable

Door-to-door sales, street sales, and news vendors

Non- Automatable

Sales demonstrators, promoters, and models

Automatable

Office supervisors Fully Automatable

Computer and peripheral equipment operators

Non- Automatable

Secretaries and stenographers Fully Automatable

Typists Fully Automatable

Interviewers, enumerators, and surveyors

Non- Automatable

Hotel clerks Fully Automatable

Transportation ticket and reservation agents Fully Automatable

Receptionists and other information clerks

Fully Automatable

Correspondence and order clerks Fully Automatable

Human resources clerks, excl payroll and timekeeping Fully Automatable

Library assistants Automatable

File clerks Fully Automatable

Records clerks Fully Automatable

Bookkeepers and accounting and auditing clerks

Fully Automatable

Payroll and timekeeping clerks Fully Automatable

Billing clerks and related financial records processing

Fully Automatable

Mail and paper handlers Fully Automatable

Office machine operators, n.e.c. Fully Automatable

Telephone operators Fully Automatable

Other telecom operators Fully Automatable

Postal clerks, exluding mail carriers Fully Automatable

Mail carriers for postal service Fully Automatable

Mail clerks, outside of post office Fully Automatable

Messengers Fully Automatable

Dispatchers Fully Automatable

Shipping and receiving clerks Fully Automatable

Stock and inventory clerks Fully Automatable

Meter readers Fully Automatable

Weighers, measurers, and checkers Fully Automatable

Material recording, sched., prod., plan., expediting cl. Fully Automatable

Insurance adjusters, examiners, and investigators Fully Automatable

Customer service reps, invest., adjusters, excl. insur.

Fully Automatable

Eligibility clerks for government prog., social welfare Fully Automatable

Bill and account collectors

General office clerks

Fully Automatable
Fully Automatable

Bank tellers Fully Automatable

Proofreaders Fully Automatable

Data entry keyers Fully Automatable

Statistical clerks Fully Automatable

Teacher's aides Automatable

Administrative support jobs, n.e.c. Fully Automatable

Housekeepers, maids, butlers, and cleaners

Automatable

Laundry and dry cleaning workers Fully Automatable

Supervisors of guards Non- Automatable

Fire fighting, fire prevention, and fire inspection occs

Automatable

Police and detectives, public service

Non- Automatable

Sheriffs, bailiffs, correctional institution officers

Non- Automatable

Crossing guards Non- Automatable

Guards and police, except public service Fully Automatable

Protective service, n.e.c. Automatable

Supervisors of food preparation and service

Non- Automatable

Bartenders Automatable

Waiters and waitresses Automatable

Cooks Fully Automatable

Food preparation workers

Automatable

Miscellanious food preparation and service workers

Automatable

Dental Assistants Fully Automatable

Health and nursing aides Non- Automatable

Supervisors of cleaning and building service Non- Automatable

Superv. of landscaping, lawn service, groundskeeping

Automatable

Gardeners and groundskeepers

Automatable

Janitors Automatable

Pest control occupations

Barbers Non- Automatable

Fully Automatable

Hairdressers and cosmetologists

Non- Automatable

Recreation facility attendants

Guides

Ushers

Automatable

Automatable

Automatable

Baggage porters, bellhops and concierges

Automatable

Recreation and fitness workers Automatable

Motion picture projectionists

Fully Automatable
Child care workers

Non- Automatable

Personal service occupations, n.e.c Automatable
Supervisors of personal service jobs, n.e.c Automatable
Public transportation attendants and inspectors Automatable

Animal caretakers, except farm

Non- Automatable
Farmers (owners and tenants)

Fully Automatable

Farm managers Fully Automatable

Farm workers, incl. nursery farming

Graders and sorters of agricultural products

Fully Automatable

Fully Automatable

Inspectors of agricultural products

Timber, logging, and forestry workers

Fully Automatable

Fully Automatable

Fishers, marine life cultivators, hunters, and kindred Fully Automatable

Supervisors of mechanics and repairers Non- Automatable

Automobile mechanics and repairers

Non- Automatable

Bus, truck, and stationary engine mechanics

Non- Automatable

Aircraft mechanics Non- Automatable

Small engine repairers

Non- Automatable

Auto body repairers

Fully Automatable

Heavy equipment and farm equipment mechanics

Non- Automatable

Industrial machinery repairers Non- Automatable

Machinery maintenance occupations

Fully Automatable

Repairers of industrial electrical equipment Fully Automatable

Repairers of data processing equipment Fully Automatable

Repairers of household appliances and power tools

Non- Automatable

Telecom and line installers and repairers Non- Automatable Repairers of electrical equipment, n.e.c. Non- Automatable Heating, air conditioning, and refrigeration mechanics Non- Automatable Precision makers, repairers, and smiths Fully Automatable

Locksmiths and safe repairers Automatable

Non- Automatable Repairers of mechanical controls and valves Elevator installers and repairers Non- Automatable Non- Automatable Millwrights Mechanics and repairers, n.e.c. Non- Automatable Supervisors of construction work

Non- Automatable

Masons, tilers, and carpet installers Automatable

Non- Automatable Carpenters Non- Automatable Drywall installers Electricians Non- Automatable Electric power installers and repairers Non- Automatable

Automatable Painters, construction and maintenance Automatable **Paperhangers Plasterers** Automatable

Non- Automatable Plumbers, pipe fitters, and steamfitters

Concrete and cement workers Automatable

Glaziers Non- Automatable Insulation workers Non- Automatable Paving, surfacing, and tamping equipment operators Non- Automatable Roofers and slaters Non- Automatable Structural metal workers Non- Automatable Drillers of earth Fully Automatable

Misc. construction and related occupations Automatable

Drillers of oil wells Fully Automatable

Explosives workers Automatable Miners Automatable Other mining occupations Automatable Production supervisors or foremen Automatable

Tool and die makers and die setters Fully Automatable **Machinists** Fully Automatable **Boilermakers** Fully Automatable Precision grinders and fitters Fully Automatable Patternmakers and model makers Fully Automatable

Engravers Fully Automatable

Other metal and plastic workers

Automatable

Cabinetmakers and bench carpeters

Non- Automatable

Furniture/wood finishers, other prec. wood workers Fully Automatable

Dressmakers, seamstresses, and tailors

Automatable

Upholsterers Fully Automatable

Shoemakers, other prec. apparel and fabric workers Fully Automatable

Hand molders and shapers, except jewelers Fully Automatable

Fully Automatable

Dental laboratory and medical applicance technicians

Automatable

Optical goods workers

Bookbinders Fully Automatable

Other precision and craft workers Fully Automatable

Butchers and meat cutters Fully Automatable

Bakers Fully Automatable

Batch food makers Fully Automatable

Water and sewage treatment plant operators

Automatable

Power plant operators Fully Automatable

Plant and system operators, stationary engineers Automatable

Other plant and system operators

Automatable

Lathe, milling, and turning machine operatives Fully Automatable

Punching and stamping press operatives Fully Automatable

Rollers, roll hands, and finishers of metal Non- Automatable

Drilling and boring machine operators

Fully Automatable

Grinding, abrading, buffing, and polishing workers

Fully Automatable

Forge and hammer operators Automatable

Molders and casting machine operators

Fully Automatable

Metal platers Fully Automatable

Heat treating equipment operators

Automatable

Sawing machine operators and sawyers Fully Automatable

Nail, tacking, shaping and joining mach ops (wood)

Fully Automatable

Other woodworking machine operators

Fully Automatable

Printing machine operators, n.e.c. Fully Automatable

Typesetters and compositors Fully Automatable

Winding and twisting textile and apparel operatives Fully Automatable

Knitters, loopers, and toppers textile operatives

Fully Automatable

Textile cutting and dyeing machine operators

Fully Automatable
Fully Automatable

Shoemaking machine operators Fully Automatable

Clothing pressing machine operators

Automatable

Miscellanious textile machine operators

Fully Automatable

Cementing and gluing machine operators

Fully Automatable

Packers, fillers, and wrappers Fully Automatable

Extruding and forming machine operators Fully Automatable

Mixing and blending machine operators Fully Automatable

Separating, filtering, and clarifying machine operators

Non- Automatable

Food roasting and baking machine operators

Fully Automatable
Washing, cleaning, and pickling machine operators

Fully Automatable

Paper folding machine operators

Fully Automatable

Furnance, kiln, and oven operators, apart from food Automatable

Slicing, cutting, crushing and grinding machine

Fully Automatable

Photographic process workers

Machine operators, n.e.c.

Welders, solderers, and metal cutters

Automatable

Automatable

Assemblers of electrical equipment Fully Automatable

Painting and decoration occupations

Automatable

Production checkers, graders, and sorters in manufacturing Fully Automatable

Supervisors of motor vehicle transportation Non- Automatable

Truck, delivery, and tractor drivers

Fully Automatable

Bus drivers

Fully Automatable

Taxi cab drivers and chauffeurs Fully Automatable

Parking lot attendants Automatable

Railroad conductors and yardmasters

Non- Automatable

Locomotive operators: engineers and firemen

Automatable

Railroad brake, coupler, and switch operators

Automatable

Ship crews and marine engineers

Non- Automatable

Miscellanious transportation occupations

Automatable

Operating engineers of construction equipment

Non- Automatable

Crane, derrick, winch, hoist, longshore operators

Non- Automatable

Excavating and loading machine operators

Automatable

Stevedores and misc. material moving occupations

Helpers, constructions

Automatable

Helpers, surveyors Automatable

Construction laborers

Production helpers

Fully Automatable

Fully Automatable

Garbage and recyclable material collectors

Fully Automatable

Machine feeders and offbearers

Automatable

Garage and service station related occupations

Fully Automatable

Vehicle washers and equipment cleaners

Fully Automatable

Packers and packagers by hand Fully Automatable

Laborers, freight, stock, and material handlers, n.e.c. Automatable

S2 Appendix. Individual Country Analysis.

S3 Appendix. Individual country analysis Austria

Table A1 Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	-4.05
Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	0
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-1.687
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	1.577
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-6.859
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	3.084
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-2.639
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	1.665

Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms,	Flexibility,	Physical	
	and/or legs.	balance and	Abilities	
		coordination		-2.926
Far Vision	The ability to see details at a distance.	Visual Abilities	Sensory	
			Abilities	-3.724
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of	Fine manipulative	Psychomotor	
	one or both hands to grasp, manipulate, or assemble very small objects.	abilities	abilities	3.201
Flexibility of	The ability to identify or detect a known pattern (a figure, object, word,	Perecptual	Cognitive	
Closure	or sound) that is hidden in other distracting material.	Abilities	abilities	0
Fluency of ideas	The ability to come up with a number of ideas about a topic (the	Ideas generation	Cognitive	
-	number of ideas is important, not their quality, correctness, or	and reasoning	abilities	
	creativity).	abilities		-4.157
Glare sensitivity	The ability to see objects in the presence of glare or bright lighting.	Visual abilities	Sensory	
•			abilities	-2.581
Gross Body Co-	The ability to coordinate the movement of your arms, legs, and torso	Flexibility,	Physical	
ordination	together when the whole body is in motion.	Balance and	Abilities	
		Coordination		0
Gross Body	The ability to keep or regain your body balance or stay upright when in	Flexibility,	Physical	
Equilibrium	an unstable position.	Balance and	Abilities	
•		Coordination		0
Hearing	The ability to detect or tell the differences between sounds that vary in	Auditory and	Sensory	
Sensitivity	pitch and loudness.	Speech abilities	Abilities	
·		1		-1.663
Inductive	The ability to combine pieces of information to form general rules or	Idea Generation	Cognitive	
Reasoning	conclusions (includes finding a relationship among seemingly unrelated	and Reasoning	Abilities	
Č	events).	Abilities		
				0
Information	The ability to arrange things or actions in a certain order or pattern	Idea Generation	Cognitive	
Ordering	according to a specific rule or set of rules (e.g., patterns of numbers,	and Reasoning	Abilities	
S	letters, words, pictures, mathematical operations).	Abilities		0

Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	1.948
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	2.046
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	-1.889
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	-2.215
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	0
Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	5.3
Originality				0.489
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time	Perceptual Abilities	Cognitive Abilities	-4.268

	·			
	or one after the other. This ability also includes comparing a presented object with a remembered object.			
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	1.425
Problem	The ability to tell when something is wrong or is likely to go wrong. It	Idea generation	Cognitive	
Sensitivity	does not involve solving the problem, only recognizing there is a problem.	and Reasoning Abilities	Abilities	
				2.676
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	2.512
Reaction Time	The shility to quickly respond (with the hand finger or feet) to a	Reaction Time and	Davahamatan	3.512
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Speed Abilities	Psychomotor Abilities	0
Response	The ability to choose quickly between two or more movements in	Control	Psychomotor	
Orientation	response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the	Movement Abilities	Abilities	
	hand, foot, or other body part.			-3.375
Selective Attention	The ability to concentrate on a task over a period of time without being distracted.	Attentiveness	Cognitive Abilities	0.837
Sound Localisation	The ability to tell the direction from which a sound originated.	Auditory and Speech Abilities	Sensory Abilities	-0.809
Spatial	The ability to know your location in relation to the environment or to	Spatial Abilities	Cognitive	
Orientation	know where other objects are in relation to you.		Abilities	1.711
Speech Clarity	The ability to speak clearly so others can understand you.	Auditory and Speech Abilities	Sensory Abilities	0
Speech Recognition	The ability to identify and understand the speech of another person.	Auditory and Speech Abilities	Sensory Abilities	-1.291
Speed of Closure	The ability to quickly make sense of, combine, and organize information into meaningful patterns.	Perceptual Abilities	Cognitive Abilities	5.619

Speed of Limb	The ability to quickly move the arms and legs.	Reaction Time and	Psychomotor	
Movement		Speed Abilities	Abilities	0
Stamina	The ability to exert yourself physically over long periods of time	Endurance	Physical	
	without getting winded or out of breath.		Abilities	
				1.518
Static Strength	The ability to exert maximum muscle force to lift, push, pull, or carry	Physical Strength	Physical	
	objects.	Abilities	Abilities	
				0.952
Time Sharing	The ability to shift back and forth between two or more activities or	Attentiveness	Cognitive	
	sources of information (such as speech, sounds, touch, or other		Abilities	
	sources).			1.185
Trunk Strength	The ability to use your abdominal and lower back muscles to support	Physical Strength	Physical	
C	part of the body repeatedly or continuously over time without 'giving	Abilities	Abilities	
	out' or fatiguing.			0
Visual Color	The ability to match or detect differences between colors, including	Visual Abilities	Sensory	
Discrimination	shades of color and brightness.		Abilities	
				4.615
Visualisation	The ability to imagine how something will look after it is moved	Spatial Abilities	Cognitive	
	around or when its parts are moved or rearranged.		Abilities	-0.213
Wrist-Finger	The ability to make fast, simple, repeated movements of the fingers,	Reaction Time and	Psychomotor	
Speed	hands, and wrists.	Speed Abilities	Abilities	
1		1		0
Written	The ability to read and understand information and ideas presented in	Verbal Abilities	Cognitive	
Comprehension	writing.		Abilities	0
Written	The ability to communicate information and ideas in writing so others	Verbal Abilities	Cognitive	
Expression	will understand.		Abilities	0
R Squared = 0.98				154692

Table A2 Austria Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the implications of new information for both current and future problem-solving and decision-making.	Process	Basic Skills	0.144
Active Listening	Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.	Content	Basic Skills	-0.805
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	Complex Problem Solving	Cross Functional Skills	-3.301
Coordination	Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-6.276
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	Process	Basic Skills	-3.403
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	Technical Skills	Cross Functional Skills	0
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross Functional Skills	2.149
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Cross Functional Skills	0.923

Instructing	Teaching others how to do something.	Social Skills	Cross	
C			Functional	
			Skills	-2.239
Judgement and	Considering the relative costs and benefits of potential actions to	Systems Skills	Cross	
Decision Making	choose the most appropriate one.		Functional	
Ç			Skills	6.807
Learning Strategies	Selecting and using training/instructional methods and procedures	Systems Skills	Cross	
	appropriate for the situation when learning or teaching new things.		Functional	
			Skills	0.184
Management of	Determining how money will be spent to get the work done, and	Resource	Cross	
Financial Resources	accounting for these expenditures.	Management	functional	
		Skills	Skills	0.235
Management of	Obtaining and seeing to the appropriate use of equipment, facilities,	Resource	Cross	
Material Resources	and materials needed to do certain work.	Management	functional	
		Skills	Skills	-1.102
Management of	Motivating, developing, and directing people as they work,	Resource	Cross	
Personell Resources	identifying the best people for the job.	Management	functional	
		Skills	Skills	1.371
Mathematics	Using mathematics to solve problems.	Content	Basic Skills	0
Monitoring	Monitoring/Assessing performance of yourself, other individuals, or	Process	Basic Skills	
_	organizations to make improvements or take corrective action.			-6.658
Negotiation	Bringing others together and trying to reconcile differences.	Social Skills	Cross	
			functional	
			Skills	1.736
Operation Monitoring	Watching gauges, dials, or other indicators to make sure a machine	Technical Skills	Cross	
	is working properly.		Functional	
			Skills	3.709
Operation and Control	Controlling operations of equipment or systems.	Technical Skills	Cross	
-			Functional	
			Skills	-0.903

Operations Analysis	Analyzing needs and product requirements to create a design.	Technical Skills	Cross	
-			Functional	
			Skills	-1.407
Persuasion	Persuading others to change their minds or behavior.	Social Skills	Cross	
			functional	
			Skills	0
Programming	Writing computer programs for various purposes.	Technical Skills	Cross	
			functional	
			Skills	0
Quality Control	Conducting tests and inspections of products, services, or processes	Technical Skills	Cross	
Analysis	to evaluate quality or performance.		functional	
			Skills	-0.436
Reading	Understanding written sentences and paragraphs in work related	Content	Basic Skills	
Comprehension	documents.			
				-2.055
Repairing	Repairing machines or systems using the needed tools.	Technical Skills	Cross	
			Functional	
			Skills	-2.826
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
				0.755
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross	
			Functional	
			Skills	-0.93
Social Perceptiveness	Being aware of others' reactions and understanding why they react	Social Skills	Cross	
	as they do.		Functional	
			Skills	0
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	3.468
System Analysis	Determining how a system should work and how changes in	Systems Skills	Cross	
	conditions, operations, and the environment will affect outcomes.		Functional	
			Skills	0

System Evaluation	Identifying measures or indicators of system performance and the	Systems Skills	Cross	
	actions needed to improve or correct performance, relative to the		Functional	
	goals of the system.		Skills	3.193
Technology Design	Generating or adapting equipment and technology to serve user	Technical Skills	Cross	
	needs.		Functional	
			Skills	-3.514
Time Management	Managing one's own time and the time of others.	Resource	Cross	
		Management	Functional	
		Skills	Skills	3.156
Troubleshooting	Determining causes of operating errors and deciding what to do	Technical Skills	Cross	
	about it.		Functional	
			Skills	0
Writing	Communicating effectively in writing as appropriate for the needs of	Content	Basic Skills	
_	the audience.			
				1.854
R squared = 0.82			N=	154692

Table A3 Austria People, Brains, Brawn Analysis

	Austria – EU LFS
People	-0.016***
	(0.001)
Brains	-0.073***
	(0.001)
Brawn	0.038***
	(0.001)
People * Brains	-0.006***
•	(0.000)
People* Brawn	0.025***
•	(0.000)
Brains* Brawn	-0.030***
	(0.000)
N	154,547
R Squared	13%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S4 Appendix. Individual country analysis Belgium

Table B1 Belgium Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand	The ability to keep your	Fine		
Steadiness	hand and arm steady	manipulative		
	while moving your arm or	abilities	Psychomotor	
	while holding your arm		abilities	
	and hand in one position.			
				-3.704

			T	
Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	0
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-1.494
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	1.515
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-7.242
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	2.57
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-2.458
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	1.567
Extent Flexibility	The ability to bend, stretch, twist, or reach	Flexibility, balance and coordination	Physical Abilities	-2.691

	with your body, arms,			
	and/or legs.			
Far Vision	The ability to see details at a distance.	Visual Abilities	Sensory Abilities	-3.246
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small	Fine manipulative abilities	Psychomotor abilities	2 922
Flexibility of	objects. The ability to identify or	Perecptual		2.822
Closure	detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	Abilities	Cognitive abilities	0
Fluency of ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	Ideas generation and reasoning abilities	Cognitive abilities	-3.955
Glare sensitivity	The ability to see objects in the presence of glare or bright lighting.	Visual abilities	Sensory abilities	-2.16
Gross Body Co- ordination	The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.	Flexibility, Balance and Coordination	Physical Abilities	0
Gross Body Equilibrium	The ability to keep or regain your body balance or stay upright when in an unstable position.	Flexibility, Balance and Coordination	Physical Abilities	-0.145
Hearing Sensitivity	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	Auditory and Speech abilities	Sensory Abilities	-1.93
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	Idea Generation and Reasoning Abilities	Cognitive Abilities	0

Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	2.544
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	1.836
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	-1.694
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	-2.601
Oral Comprehension	The ability to listen to and understand information and ideas presented	Verbal Abilities	Cognitive Abilities	-1.365

	through spoken words and sentences.			
Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	6.102
Originality				0.378
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-4.276
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	1.66
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	3.406
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	3.284
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Response Orientation	The ability to choose quickly between two or more movements in response to two or more	Control Movement Abilities	Psychomotor Abilities	-3.23

F	T	1		
	different signals (lights, sounds, pictures). It includes the speed with which the correct			
	response is started with			
	the hand, foot, or other body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of		Cognitive	
	time without being distracted.		Abilities	0
Sound	The ability to tell the	Auditory and	Concomi	· ·
Localisation	direction from which a	Speech	Sensory Abilities	0.004
Spatial	sound originated. The ability to know your	Abilities Spatial		-0.801
Orientation	location in relation to the	Abilities	G ::	
	environment or to know		Cognitive Abilities	
	where other objects are in		710111105	1 170
Speech Clarity	relation to you. The ability to speak	Auditory and		1.179
	clearly so others can	Speech	Sensory	
	understand you.	Abilities	Abilities	
Speech	The ability to identify and	Auditory and		0
Recognition	understand the speech of	Speech	Sensory	
	another person.	Abilities	Abilities	-1.451
Speed of	The ability to quickly	Perceptual	G :::	
Closure	make sense of, combine, and organize information	Abilities	Cognitive Abilities	
	into meaningful patterns.		Tiomnes	5.39
Speed of Limb	The ability to quickly	Reaction Time	Psychomotor	
Movement	move the arms and legs.	and Speed Abilities	Abilities	0
Stamina	The ability to exert	Endurance		U
	yourself physically over			
	long periods of time		Physical	
	without getting winded or out of breath.		Abilities	
	out of ofoun.			1.245
Static Strength	The ability to exert	Physical		
	maximum muscle force to lift, push, pull, or carry	Strength Abilities	Physical	
	objects.	Aumues	Abilities	
	· ·			1.293
Time Sharing	The ability to shift back and forth between two or	Attentiveness	Cognitive	
	more activities or sources		Abilities	
	of information (such as			1.282

	speech, sounds, touch, or other sources).			
Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	0
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	4.083
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	0.317
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	0
R Squared = 0.98			N = 72492	

Table B2 Belgian Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0.488
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			-1.757

being made, asking questions as appropriate, and not interrupting at inappropriate times. Complex Problem Solving Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions. Coordination Adjusting actions in relation to others' actions. Critical Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems. Equipment Maintenance maintenance on equipment and determining when and what kind of maintenance is needed. Equipment Determining the kind of Selection tools and equipment needed to do a job. Installation Installing equipment, machines, wiring, or programs to meet specifications. Instructing Teaching others how to do something. Teaching others how to do something. Teaching others how to do something. Complex Prooss Functional Skills Cross Functional Skills Functional Skills Functional Skills Functional Skills Skills Instructional Skills Functional		1 ' 1 1'			
and not interrupting at inappropriate times. Complex Problem Solving Problems and reviewing related information to develop and evaluate options and implement solutions. Coordination Adjusting actions in relation to others' actions. Critical Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems. Equipment Maintenance Performing routine maintenance on equipment and determining when and what kind of maintenance is needed. Equipment Determining the kind of Selection tools and equipment needed to do a job. Installation Installing equipment, machines, wiring, or programs to meet specifications. Instructing Teaching others how to do something. Adjusting actions in Functional Skills Punctional Punctional Punctional Punctional Punctional Punctional Punct					
Inappropriate times. Complex Problem Solving Problem sand reviewing related information to develop and evaluate options and implement solutions. Social Skills Cross Functional Skills -2.427		1 1 1			
Complex Problem Solving Problem Solving Problem Solving Problem Solving Problem Solving Problem Solving Skills		and not interrupting at			
Problem Solving related information to develop and evaluate options and implement solutions. Coordination Adjusting actions in relation to others' actions. Critical Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems. Equipment Maintenance Bequipment and determining when and what kind of maintenance is needed. Equipment Solving Process Punctional Skills Punctional Skills Punctional Skills Equipment Solving Process Punctional Skills Punctional Punctional Punctional Punctional Punctional Punctional Pu		inappropriate times.			
Problem Solving related information to develop and evaluate options and implement solutions. Coordination Adjusting actions in relation to others' actions. Critical Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems. Equipment Maintenance Bequipment and determining when and what kind of maintenance is needed. Equipment Solving Process Punctional Skills Punctional Skills Punctional Skills Equipment Solving Process Punctional Skills Punctional Punctional Punctional Punctional Punctional Punctional Pu	Complex	Identifying complex	Complex	Cross	
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Conclusions or approaches to problems.		and weaknesses of			
Conclusions or approaches to problems.		alternative solutions.			
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Installation Installing equipment, machines, wiring, or programs to meet specifications. Instructing Teaching others how to do something. Judgement and Considering the relative Systems Technical Skills Functional Skills Functional Skills O.04 Cross Functional Skills -1.824		needed to do a job.		Skills	1.507
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Judgement and Considering the relative Systems Cross		sometning.			1.004
					-1.824
	0		_		
		costs and benefits of	Skills	Functional	
Making potential actions to choose Skills	Making	potential actions to choose		Skills	
the most appropriate one. 4.357		the most appropriate one.			4.357
Learning Selecting and using Systems Cross	Learning		Systems	Cross	
Strategies training/instructional Skills Functional	_		•		
methods and procedures Skills	6	•			
appropriate for the		*			
situation when learning or					
					0.877
8 8	Managan (C		D	Cara	0.0//
Management of Determining how money Resource Cross					
Financial will be spent to get the Management functional			_		
	Resources		Skills	Skills	
Resources work done, and accounting Skills Skills		for these expenditures.			
Resources work done, and accounting for these expenditures. Skills Skills		±			

Management of	Obtaining and seeing to	Resource	Cross	
Material Resources	the appropriate use of equipment, facilities, and	Management Skills	functional Skills	
	materials needed to do certain work.			0
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
	best people for the job.			0
Mathematics	Using mathematics to	Content	Basic Skills	
	solve problems.			0
Monitoring	Monitoring/Assessing	Process	Basic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-6.741
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.	T 1 : 1	Skills	2.591
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	2.707
0 1	properly.	TD 1 1 1		2.707
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	
Onanations	Analyzina naada and	Technical	Skills Cross	0
Operations	Analyzing needs and	Skills	Functional	
Analysis	product requirements to	SKIIIS	Skills	-0.836
Persuasion	create a design. Persuading others to	Social Skills	Cross	-0.830
reisuasion	change their minds or	Social Skills	functional	
	behavior.		Skills	-1.59
Programming	Writing computer	Technical	Cross	-1.37
Trogramming	programs for various	Skills	functional	
	purposes.	SKIIIS	Skills	0
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
7 mary 515	services, or processes to		Skills	
	evaluate quality or			
	performance.			-1.535
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			
_	in work related			
	documents.			
				0
Repairing	Repairing machines or	Technical	Cross	
	systems using the needed	Skills	Functional	
	tools.		Skills	-0.8

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
				0.342
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and understanding why they		Functional Skills	
	react as they do.			-0.631
Speaking	Talking to others to convey information	Content	Basic Skills	
	effectively.			2.659
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect	Systems Skills	Cross Functional Skills	0.297
G	outcomes.	C 4		0.297
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
	system.			2.154
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-2.974
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	3.972
Troubleshooting	Determining causes of operating errors and deciding what to do about	Technical Skills	Cross Functional Skills	0.510
W/	it.	Contout	Dania 01 '11	0.519
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	
D 1 0.76			NT.	72 402
R squared = 0.76			N=	72, 492

Table B3 Belgium People, Brains, Brawn Analysis

	Belgium – EU LFS
People	-0.046***
	(0.001)
Brains	-0.089***
	(0.001)
Brawn	0.016***
	(0.001)
People * Brains	-0.005***
-	(0.000)
People* Brawn	0.000*
-	(0.000)
Brains* Brawn	-0.003***
	(0.000)
N	72,405
R Squared	13%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S5 Appendix. Individual country analysis Cyprus

Table C1 Cyprus Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand	The ability to keep your	Fine		
Steadiness	hand and arm steady	manipulative		
	while moving your arm or	abilities	Psychomotor	
	while holding your arm		abilities	
	and hand in one position.			
	•			-0.779

Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	-0.998
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	-0.619
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	2.941
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	2.821
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	0
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	0.317
Extent Flexibility	The ability to bend, stretch, twist, or reach	Flexibility, balance and coordination	Physical Abilities	0.317

	with your body, arms,			
	and/or legs.			
Far Vision	The ability to see details	Visual	Sensory	_
	at a distance.	Abilities	Abilities	0
Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
	movements of the fingers	abilities	Psychomotor	
	of one or both hands to		abilities	
	grasp, manipulate, or			
	assemble very small			0.403
Elavibility of	objects.	Dargantual		0.403
Flexibility of Closure	The ability to identify or detect a known pattern (a	Perecptual Abilities		
Closuic	figure, object, word, or	Admitics	Cognitive	
	sound) that is hidden in		abilities	
	other distracting material.			0
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
10000	about a topic (the number	reasoning	Cognitive	
	of ideas is important, not	abilities	abilities	
	their quality, correctness,			
	or creativity).			0
Glare	The ability to see objects	Visual	Canada	
sensitivity	in the presence of glare or	abilities	Sensory abilities	
	bright lighting.		adiffues	-2.514
Gross Body Co-	The ability to coordinate	Flexibility,		
ordination	the movement of your	Balance and		
	arms, legs, and torso	Coordination	Physical	
	together when the whole		Abilities	
	body is in motion.			4.4.50
~ ~ ~		771 11 11		-1.158
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and	Physical	
	or stay upright when in an	Coordination	Abilities	
	unstable position.			-1.65
Цостіпа	The ability to detect or tell	Auditory and		-1.03
Hearing Sensitivity	The ability to detect or tell the differences between	Auditory and Speech		
Schsilivity	sounds that vary in pitch	abilities	Sensory	
	and loudness.	aomnes	Abilities	
	and roudiness.			0
Inductive	The ability to combine	Idea		-
Reasoning	pieces of information to	Generation		
S	form general rules or	and Reasoning		
	conclusions (includes	Abilities	Cognitive	
	finding a relationship		Abilities	
	among seemingly			
	unrelated events).			
				-2.137

Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	0
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	3.282
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	2.659
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	2.05
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	1.512
Oral Comprehension	The ability to listen to and understand information and ideas presented	Verbal Abilities	Cognitive Abilities	-1.513 -4.977

	through spoken words and sentences.			
Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	4.577
Originality				0
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-2.952
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	0
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	2.6
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	4.01
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Response Orientation	The ability to choose quickly between two or more movements in response to two or more	Control Movement Abilities	Psychomotor Abilities	-1.86

	different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other			
	body part.			
Selective Attention	The ability to concentrate on a task over a period of time without being distracted.	Attentiveness	Cognitive Abilities	0
Sound Localisation	The ability to tell the direction from which a sound originated.	Auditory and Speech Abilities	Sensory Abilities	-0.335
Spatial Orientation	The ability to know your location in relation to the environment or to know where other objects are in relation to you.	Spatial Abilities	Cognitive Abilities	1.208
Speech Clarity	The ability to speak clearly so others can understand you.	Auditory and Speech Abilities	Sensory Abilities	
				0
Speech Recognition	The ability to identify and understand the speech of another person.	Auditory and Speech Abilities	Sensory Abilities	-2.376
Speed of Closure	The ability to quickly make sense of, combine, and organize information into meaningful patterns.	Perceptual Abilities	Cognitive Abilities	2.328
Speed of Limb Movement	The ability to quickly move the arms and legs.	Reaction Time and Speed Abilities	Psychomotor Abilities	-3.248
Stamina	The ability to exert yourself physically over long periods of time without getting winded or out of breath.	Endurance	Physical Abilities	3.274
Static Strength	The ability to exert maximum muscle force to lift, push, pull, or carry objects.	Physical Strength Abilities	Physical Abilities	1.074
Time Sharing	The ability to shift back and forth between two or more activities or sources of information (such as	Attentiveness	Cognitive Abilities	0

	speech, sounds, touch, or other sources).			
Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	-0.819
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	0
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-0.93
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	2.319
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	-2.877
R Squared = 0.95)		N = 30660	

Table C2 Cyprus Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			2.486
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			-0.454

1				
	being made, asking questions as appropriate, and not interrupting at inappropriate times.			
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement	Complex Problem Solving	Cross Functional Skills	
Coordination	solutions. Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-4.872
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	Process	Basic Skills	0
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	Technical Skills	Cross Functional Skills	-0.34
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross Functional Skills	0.662
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Cross Functional Skills	0
Instructing	Teaching others how to do something.	Social Skills	Cross Functional Skills	-2.963
Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	Systems Skills	Cross Functional Skills	0
Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	Systems Skills	Cross Functional Skills	0
Management of Financial Resources	Determining how money will be spent to get the work done, and accounting for these expenditures.	Resource Management Skills	Cross functional Skills	0

	T - 4	T_	_	1
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			0
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
	best people for the job.			1.858
Mathematics	Using mathematics to	Content	Basic Skills	
	solve problems.			-0.594
Monitoring	Monitoring/Assessing	Process	Basic Skills	
Wiemiering	performance of yourself,	1100055	Busic Skills	
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-4.729
Nagatiation		Social Skills	Cross	-4.147
Negotiation	Bringing others together	Social Skills		
	and trying to reconcile		functional	2.41
0 .:	differences.	T 1 : 1	Skills	2.41
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	
	properly.			1.644
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	
			Skills	0
Operations	Analyzing needs and	Technical	Cross	
Analysis	product requirements to	Skills	Functional	
-	create a design.		Skills	-0.817
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.		Skills	-2.585
Programming	Writing computer	Technical	Cross	
88	programs for various	Skills	functional	
	purposes.		Skills	0
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
1 111u1 y 515	services, or processes to	SKIIIS	Skills	
	evaluate quality or		SKIIIS	
	performance.			-1.343
Danding	Understanding written	Content	Basic Skills	-1.343
Reading		Content	Dasic Skills	
Comprehension	sentences and paragraphs			
	in work related			
	documents.			
D		m 1 : 1		0
Repairing	Repairing machines or	Technical	Cross	
	systems using the needed	Skills	Functional	
	tools.		Skills	-0.799

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	0.074
				0.874
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and understanding why they		Functional Skills	
	react as they do.			0
Speaking	Talking to others to convey information	Content	Basic Skills	
	effectively.			2.109
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	-3.062
Ct		C	C	-3.062
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
	system.			5.083
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-1.835
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	2.513
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0.591
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	0
R squared $= 0.87$			N=	30660

Table C3 Cyprus People, Brains, Brawn Analysis

	Cyprus – EU
	LFS
People	-0.026***
•	(0.001)
Brains	-0.091***
	(0.002)
Brawn	-0.003***
	(0.001)
People * Brains	0.004***
	(0.000)
People*Brawn	0.000***
	(0.000)
Brains*Brawn	0.002***
	(0.000)
N	30639
R Squared	14%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S6 Appendix. Individual country analysis Czech Republic

Table D1 Czech Republic Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand	The ability to keep your	Fine		
Steadiness	hand and arm steady	manipulative		
	while moving your arm or	abilities	Psychomotor	
	while holding your arm		abilities	
	and hand in one position.			
	1			0

Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	-0.152
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-0.692
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	0
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-5.674
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	4.142
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-2.402
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	1.705
Extent Flexibility	The ability to bend, stretch, twist, or reach	Flexibility, balance and coordination	Physical Abilities	-1.758

	with your body, arms, and/or legs.			
Far Vision	The ability to see details at a distance.	Visual Abilities	Sensory Abilities	-2.727
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small	Fine manipulative abilities	Psychomotor abilities	
Flexibility of	objects. The ability to identify or	Perecptual		2.451
Closure	detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	Abilities	Cognitive abilities	0
Fluency of ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	Ideas generation and reasoning abilities	Cognitive abilities	-2.925
Glare sensitivity	The ability to see objects in the presence of glare or bright lighting.	Visual abilities	Sensory abilities	-3.347
Gross Body Coordination	The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.	Flexibility, Balance and Coordination	Physical Abilities	-0.079
Gross Body Equilibrium	The ability to keep or regain your body balance or stay upright when in an unstable position.	Flexibility, Balance and Coordination	Physical Abilities	0.079
Hearing Sensitivity	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	Auditory and Speech abilities	Sensory Abilities	-1.92
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	Idea Generation and Reasoning Abilities	Cognitive Abilities	0

Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	Idea Generation and Reasoning Abilities	Cognitive Abilities	-2.695
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	-1.786
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	2.496
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	2.123
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	2.058
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	-2.991
Oral Comprehension	The ability to listen to and understand information and ideas presented	Verbal Abilities	Cognitive Abilities	0

Oral Expression The ability to communicate information and ideas in speaking so others will understand. Abilities Abilities 4.978		through spoken words and sentences.			
Perceptual Speed The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object. Perceptual Vision The ability to see objects or movement of objects to one's side when the eyes are looking ahead. The ability to tell when Sensitivity Something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem. Abilities Cognitive Abilities Abilities Cognitive Abilities Cognit	-	communicate information and ideas in speaking so		-	
Speed accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object. Perceptual Vision The ability to see objects or movement of objects to one's side when the cyes are looking ahead. Problem Sensitivity The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem. The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene. The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears. Response The ability to choose Orientation Quickly between two or Movement Psychomotor Psychomo					0.76
Perceptual Vision	-	accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a	-		-4.021
Problem Sensitivity The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem. Rate Control The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene. Reaction Time The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears. Response Orientation The ability to tell when something is wrong or is likely to generation and Reasoning Abilities Cognitive Abilities Psychomotor Abilities Cognitive Abilities Psychomotor Abilities Cognitive Abilities Cognitive Abilities Psychomotor Abilities Occurrent and Speed Abilities Psychomotor Abilities Occurrent and Speed Abilities Psychomotor Abilities Psychomotor Abilities	_	or movement of objects to one's side when the eyes		•	0
Rate Control The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene. Reaction Time The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears. Response Orientation The ability to time your Movement Movement Abilities Psychomotor Abilities Psychomotor Abilities O Control Movement Psychomotor Abilities		The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing	generation and Reasoning		2 764
Reaction Time The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears. Response Orientation The ability to quickly Reaction Time and Speed Abilities Psychomotor Abilities O Control Movement Psychomotor	Rate Control	movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a	Movement	_	
Orientation quickly between two or Movement Psychomotor	Reaction Time	respond (with the hand, finger, or foot) to a signal (sound, light, picture)	and Speed		
response to two or more -3.471	_	quickly between two or more movements in	Movement	_	-3.471

	T	1		1
	different signals (lights, sounds, pictures). It includes the speed with			
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of		Cognitive	
	time without being		Abilities	
	distracted.			0
Sound	The ability to tell the	Auditory and	Sensory	
Localisation	direction from which a	Speech	Abilities	
	sound originated.	Abilities	Admities	0.339
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities	Cognitive	
	environment or to know		Abilities	
	where other objects are in		7 tomties	
	relation to you.			1.328
Speech Clarity	The ability to speak	Auditory and		
	clearly so others can	Speech	Sensory	
	understand you.	Abilities	Abilities	
				0
Speech	The ability to identify and	Auditory and	Sensory	
Recognition	understand the speech of	Speech	Abilities	
	another person.	Abilities	Hommes	0
Speed of	The ability to quickly	Perceptual		
Closure	make sense of, combine,	Abilities	Cognitive	
	and organize information		Abilities	
	into meaningful patterns.			5.627
Speed of Limb	The ability to quickly	Reaction Time	Psychomotor	
Movement	move the arms and legs.	and Speed	Abilities	
		Abilities	Hommes	0.991
Stamina	The ability to exert	Endurance		
	yourself physically over			
	long periods of time		Physical	
	without getting winded or		Abilities	
	out of breath.			
	m 1 111	D 1 1 1		0.522
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength	Physical	
	lift, push, pull, or carry	Abilities	Abilities	
	objects.			
				0
Time Sharing	The ability to shift back	Attentiveness	a	
	and forth between two or		Cognitive	
	more activities or sources		Abilities	
	of information (such as			0

	speech, sounds, touch, or other sources).			
Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	-0.699
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	3.271
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-0.465
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0.621
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	-1.184
R Squared = 0.96			N = 30684	

Table D2 Czech Republic Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0

A .: T : . :	G: : C 11:		D : C1 :11	
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			
	questions as appropriate,			
	and not interrupting at			
				-2.209
C 1	inappropriate times.	C 1	0	-2.209
Complex	Identifying complex	Complex	Cross	
Problem Solving	problems and reviewing	Problem	Functional	
	related information to	Solving	Skills	
	develop and evaluate			
	options and implement			
	solutions.			-4.862
Coordination	Adjusting actions in	Social Skills	Cross	
	relation to others' actions.		Functional	
	relation to others actions.		Skills	-5.513
Critical	Haing logic and researing	Process	Basic Skills	5.515
	Using logic and reasoning	Flocess	Dasic Skills	
Thinking	to identify the strengths			
	and weaknesses of			
	alternative solutions,			
	conclusions or approaches			
	to problems.			-1.515
Equipment	Performing routine	Technical	Cross	
Maintenance	maintenance on equipment	Skills	Functional	
	and determining when and		Skills	
	what kind of maintenance			
	is needed.			-2.926
Equipment	Determining the kind of	Technical	Cross	2.720
			Functional	
Selection	tools and equipment	Skills		201
	needed to do a job.		Skills	2.91
Installation	Installing equipment,	Technical	Cross	
	machines, wiring, or	Skills	Functional	
	programs to meet		Skills	
	specifications.			0
Instructing	Teaching others how to do	Social Skills	Cross	
	something.		Functional	
			Skills	-4.382
Judgement and	Considering the relative	Systems	Cross	1.502
Decision	costs and benefits of	Skills	Functional	
		SKIIIS		
Making	potential actions to choose		Skills	4.755
	the most appropriate one.	~	~	4.755
Learning	Selecting and using	Systems	Cross	
Strategies	training/instructional	Skills	Functional	
	methods and procedures		Skills	
	appropriate for the			
	situation when learning or			
	teaching new things.			3.037
L	· · · · · · · · · · · · · · · · ·	ı	1	1

Management of	Determining how money	Resource	Cross	
Financial	will be spent to get the	Management	functional	
Resources	work done, and accounting	Skills	Skills	
	for these expenditures.			
				0
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			0
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
	best people for the job.			0.588
Mathematics	Using mathematics to	Content	Basic Skills	
	solve problems.			0
Monitoring	Monitoring/Assessing	Process	Basic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-9.976
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.		Skills	0.531
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	
	properly.			6.219
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	
			Skills	-1.811
Operations	Analyzing needs and	Technical	Cross	
Analysis	product requirements to	Skills	Functional	
	create a design.		Skills	0
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.		Skills	0
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	
	purposes.		Skills	0
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
	services, or processes to		Skills	
	evaluate quality or			
	performance.			-1.5
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			1.326

	in work related documents.			
Repairing	Repairing machines or systems using the needed tools.	Technical Skills	Cross Functional Skills	0
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
				0
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	2.727
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	Social Skills	Cross Functional Skills	-2.443
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	5.244
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	0.513
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-5.521
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	3.495
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	
				0

R squared = 0.85		N=	30 683	l
K squarcu – 0.65		11	30,003	ı

Table D3 Czech Republic People, Brains, Brawn Analysis

	Czech Republic – EU
	LFS
People	-0.023***
	(0.001)
Brains	-0.106***
	(0.002)
Brawn	-0.036***
	(0.002)
People * Brains	0.000**
-	(0.000)
People*Brawn	0.002***
	(0.000)
Brains*Brawn	0.007***
	(0.001)
N	30666
R Squared	11%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S7 Appendix. Individual country Germany

Table E1 Germany Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand	The ability to keep your	Fine		
Steadiness	hand and arm steady while moving your arm or while holding your arm and hand in one position.	manipulative abilities	Psychomotor abilities	
				-4.602
Auditory Attention	The ability to focus on a single source of sound in	Auditory and speech abilities	Sensory Abilities	0

	4			
	the presence of other distracting sounds.			
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	2.0.62
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	-2.962 2.456
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-6.096
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0.106
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	2.566
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-1.233
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	1.086
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-2.77

Far Vision	The ability to see details	Visual	Sensory	
rai vision	at a distance.	Abilities	Abilities	-3.366
E.			Abilities	-3.300
Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
	movements of the fingers	abilities	Psychomotor	
	of one or both hands to		abilities	
	grasp, manipulate, or		aomics	
	assemble very small			
	objects.			3.151
Flexibility of	The ability to identify or	Perecptual		
Closure	detect a known pattern (a	Abilities		
Clobale	figure, object, word, or	710111105	Cognitive	
			abilities	
	sound) that is hidden in			0
F1 C	other distracting material.	T 1		0
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
	about a topic (the number	reasoning	Cognitive	
	of ideas is important, not	abilities	abilities	
	their quality, correctness,			
	or creativity).			-3.635
Glare	The ability to see objects	Visual	C	
sensitivity	in the presence of glare or	abilities	Sensory	
J	bright lighting.		abilities	-2.578
Gross Body Co-	The ability to coordinate	Flexibility,		2.070
ordination	the movement of your	Balance and		
ordination	arms, legs, and torso	Coordination	Physical	
		Coordination	Abilities	
	together when the whole		Admilles	
	body is in motion.			
G D 1	771 1 111 11	T1 1111		0
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and	Physical	
	or stay upright when in an	Coordination	Abilities	
	unstable position.		Tromues	
				0
Hearing	The ability to detect or tell	Auditory and		
Sensitivity	the differences between	Speech	Sangami	
	sounds that vary in pitch	abilities	Sensory	
	and loudness.		Abilities	
				-1.756
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
- 12-112 2111112	form general rules or	and Reasoning		
	conclusions (includes	Abilities	Cognitive	
	`	Aumues	Abilities	
	finding a relationship		Aumues	
	among seemingly			
	unrelated events).			0.000
I C	Th 1.114	T.1	C:	0.888
Information	The ability to arrange	Idea	Cognitive	
Ordering	things or actions in a	Generation	Abilities	0

	certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	and Reasoning Abilities		
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	0
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0
Multi Limb Coordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	2.158
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	-2.102
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	1.498

Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	4.621
Originality				0
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-4.519
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	1.408
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	1.37
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	2.629
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	2.536
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It	Control Movement Abilities	Psychomotor Abilities	-4.706

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_			
response is started with			
the hand, foot, or other			
body part.			
	Attentiveness		
_		Cognitive	
_		_	
_		Tromities	0
	A		U
•		Sensory	
	-	Abilities	1.062
			-1.063
	*		
location in relation to the	Abilities	Cognitive	
environment or to know			
where other objects are in		Abilities	
l			0.717
· ·	Auditory and		
	•	Sensory	
· ·	-		
understand you.	Admittes	Admiles	0.200
771 1:1:	A 11. 1		0.298
		Sensory	
_	*	•	
	Abilities	Tronnes	-1.706
The ability to quickly	Perceptual		
	Abilities	Cognitive	
		Abilities	
_			5.966
	Reaction Time		
move the arms and legs.		Abilities	0
The objility to assess			U
1	Endurance		
		D 1 1 1	
		Abilities	
out of breath.			
			0
The ability to exert	Physical		
maximum muscle force to		D1 : 1	
	1101111100	Abilities	
			0.946
The chility to ship head-	Attantizzanasa		0.240
_	Auenuveness		
		_	
of information (such as		Abilities	
speech, sounds, touch, or			
other sources).			2.687
	The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a sound originated. The ability to know your location in relation to the environment or to know where other objects are in relation to you. The ability to speak clearly so others can understand you. The ability to identify and understand the speech of another person. The ability to quickly make sense of, combine, and organize information into meaningful patterns. The ability to quickly move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to lift, push, pull, or carry objects. The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or	which the correct response is started with the hand, foot, or other body part. The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a sound originated. The ability to know your location in relation to the environment or to know where other objects are in relation to you. The ability to speak clearly so others can understand you. The ability to identify and understand the speech of another person. The ability to quickly make sense of, combine, and organize information into meaningful patterns. The ability to quickly move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or	which the correct response is started with the hand, foot, or other body part. The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a sound originated. The ability to know your location in relation to the environment or to know where other objects are in relation to you. The ability to speak clearly so others can understand you. The ability to identify and understand the speech of another person. The ability to quickly make sense of, combine, and organize information into meaningful patterns. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	0.469
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	5.545
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-0.564
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	-1.85
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0
Written Expression R Squared = 0.99	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities N= 367032	-0.556
K 3quareu - 0.99	•		11-30/032	

Table E2 Germany Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			-1.944

being made, asking questions as appropriate, and not interrupting at inappropriate times. Complex Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions. Coordination Adjusting actions in relation to others' actions. Critical Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems. Equipment Maintenance maintenance on equipment and determining when and what kind of maintenance is needed. Equipment Determining the kind of Selection bools and equipment needed to do a job. Installation Installing equipment, machines, wiring, or programs to meet specifications. Instructing Teaching others how to do something. Instructing Sclecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things. Management of Financial Resources work done, and accounting for these expenditures. Complex Problems Cross Functional Skills Skills Functional Skills S					
Complex Problem Solving Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions. Coordination Adjusting actions in relation to others' actions. Social Skills Cross Functional Skills Skills Cross Functional Skills Cross Functional Skills Skills Skills Cross Functional Skills Skills Skills Cross Functional Skills Fu		questions as appropriate, and not interrupting at			
Coordination	_	Identifying complex problems and reviewing related information to develop and evaluate	Problem	Functional	
relation to others' actions. Critical Thinking Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems. Equipment Maintenance Maintenance Equipment Maintenance Determining when and what kind of maintenance is needed. Equipment Selection Installation Installing equipment, machines, wiring, or programs to meet specifications. Instructing Teaching others how to do something. Instructing Teaching others how to do something. Instructing Strategies Cross Skills Functional Skills Functiona					-2.644
Critical Thinking	Coordination		Social Skills	Functional	-5.55
Equipment Maintenance maintenance on equipment and determining when and what kind of maintenance is needed. Equipment Determining the kind of tools and equipment needed to do a job. Installation Installing equipment, machines, wiring, or programs to meet specifications. Instructing Teaching others how to do something. Technical Skills Functional Skills 2.101 Technical Skills Functional Skills Skills O.196 Cross Skills Functional Skills O.196 Technical Skills Functional Skills O.196 Cross Skills Functional Skills Skills O.196 Technical Skills Functional Skills Functional Skills O.196 Technical Skills Functional Skills Functional Skills O.196 Technical Cross Skills Functional Skills Functional Skills O.196 Technical Skills Functional Skills Functional Skills Functional Skills Functional Skills Functional Skills Functional Skills O.196 Technical Cross Skills Functional Fu		to identify the strengths and weaknesses of alternative solutions, conclusions or approaches	Process		0
Equipment Selection Determining the kind of tools and equipment needed to do a job. Installation Installing equipment, machines, wiring, or programs to meet specifications. Instructing Teaching others how to do something. Teaching others how to do something. Teaching the relative costs and benefits of potential actions to choose the most appropriate one. Learning Strategies Teaching and using straining/instructional methods and procedures appropriate for the situation when learning or teaching new things. Management of Financial Resources Resources Technical Skills Functional Skills Cross Functional Skills Cross Functional Skills Systems Skills Functional Skills Functional Skills Skills Functional Skills Skills Functional Skills Skills Skills Functional Skills Skills Skills Functional Skills Skills Skills Skills Skills Functional Skills Skills Skills Skills Skills Skills		Performing routine maintenance on equipment and determining when and what kind of maintenance		Functional	-0.421
machines, wiring, or programs to meet specifications. Instructing Teaching others how to do something. Considering the relative costs and benefits of potential actions to choose the most appropriate one. Learning Strategies Selecting and using Strategies Selecting and procedures appropriate for the situation when learning or teaching new things. Management of Financial Resources Management Resources Skills Functional Skills Functional Skills Functional Skills Functional Skills Functional Skills Functional Skills Skills Skills Skills Skills Skills Skills Skills		Determining the kind of tools and equipment		Functional	
Instructing Teaching others how to do something. Systems Skills Teaching others how to do something. Systems Skills Teaching others how to do something. Systems Skills Functional of skills Systems Systems Skills Functional of skills Functional of skills Teaching or teaching and using or teaching new things. Management of Financial of the situation when learning or teaching new things. Management of of the situation will be spent to get the work done, and accounting for these expenditures. Teaching others how to do Social Skills Functional of Skills Skills Cross Functional of Skills Skills O Cross Management of Skills Skills Skills	Installation	machines, wiring, or programs to meet		Functional	0 196
Decision costs and benefits of potential actions to choose the most appropriate one. Learning Selecting and using Strategies training/instructional methods and procedures appropriate for the situation when learning or teaching new things. Management of Financial Resources work done, and accounting for these expenditures. Skills Functional Skills Functional Skills Functional Skills Functional Skills Functional Skills Skills Skills Functional Skills Skills Skills Skills Skills Functional Skills	Instructing	Teaching others how to do	Social Skills	Functional	
Learning Strategies Skills Functional Skills Skills O Management of Financial Resources Work done, and accounting for these expenditures. Skills	Decision	costs and benefits of potential actions to choose	_	Cross Functional	
Management of Financial ResourcesDetermining how money will be spent to get the work done, and accounting for these expenditures.Resource Management SkillsCross functional Skills		Selecting and using training/instructional methods and procedures appropriate for the situation when learning or	•	Functional	
	Financial	Determining how money will be spent to get the work done, and accounting	Management	functional	0.628

Management of Material Resources	Obtaining and seeing to the appropriate use of equipment, facilities, and	Resource Management Skills	Cross functional Skills	
	materials needed to do certain work.			-0.614
Management of Personell Resources	Motivating, developing, and directing people as they work, identifying the best people for the job.	Resource Management Skills	Cross functional Skills	0
Mathematics	Using mathematics to solve problems.	Content	Basic Skills	0
Monitoring	Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.	Process	Basic Skills	-7.947
Negotiation	Bringing others together and trying to reconcile differences.	Social Skills	Cross functional Skills	2.073
Operation Monitoring	Watching gauges, dials, or other indicators to make sure a machine is working properly.	Technical Skills	Cross Functional Skills	2.201
Operation and Control	Controlling operations of equipment or systems.	Technical Skills	Cross Functional Skills	0
Operations Analysis	Analyzing needs and product requirements to create a design.	Technical Skills	Cross Functional Skills	-0.975
Persuasion	Persuading others to change their minds or behavior.	Social Skills	Cross functional Skills	-1.115
Programming	Writing computer programs for various purposes.	Technical Skills	Cross functional Skills	-1.286
Quality Control Analysis	Conducting tests and inspections of products, services, or processes to evaluate quality or performance.	Technical Skills	Cross functional Skills	-0.226
Reading Comprehension	Understanding written sentences and paragraphs in work related documents.	Content	Basic Skills	-2.418
Repairing	Repairing machines or systems using the needed tools.	Technical Skills	Cross Functional Skills	-2.501

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
				0.529
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	-0.085
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and understanding why they		Functional Skills	
	react as they do.			0
Speaking	Talking to others to convey information	Content	Basic Skills	
	effectively.			1.879
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	-0.879
Caratana		Crastana	Cross	-0.879
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Functional Skills	
	system.			3.191
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-2.316
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	3.221
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0.789
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	4.141
R squared = 0.78			N=	367032

Table E3 Germany People, Brains, Brawn Analysis

	Germany – EU LFS
People	-0.008***
	(0.000)
Brains	-0.043***
	(0.000)
Brawn	0.032***
	(0.000)
People * Brains	-0.006***
-	(0.000)
People*Brawn	0.009***
	(0.000)
Brains*Brawn	-0.000***
	(0.000)
N	366327
R Squared	6%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S8 Appendix. Individual country Denmark

Table F1 Denmark Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	-4.013
Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	0

Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-2.185
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	1.516
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-6.421
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0.077
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	2.487
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-3.007
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	1.574
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-3.465
Far Vision	The ability to see details at a distance.	Visual Abilities	Sensory Abilities	-4.575

Einaan	The chility to med-	Eino		
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or	Fine manipulative abilities	Psychomotor abilities	
	assemble very small			
	objects.			3.933
Flexibility of Closure	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	Perecptual Abilities	Cognitive abilities	-0.436
Fluency of ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	Ideas generation and reasoning abilities	Cognitive abilities	-5.021
Glare sensitivity	The ability to see objects in the presence of glare or bright lighting.	Visual abilities	Sensory abilities	-2.303
Gross Body Co- ordination	The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.	Flexibility, Balance and Coordination	Physical Abilities	1.100
Gross Body Equilibrium	The ability to keep or regain your body balance or stay upright when in an unstable position.	Flexibility, Balance and Coordination	Physical Abilities	0
Hearing Sensitivity	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	Auditory and Speech abilities	Sensory Abilities	-1.832
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	Idea Generation and Reasoning Abilities	Cognitive Abilities	1.618
Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific	Idea Generation and Reasoning Abilities	Cognitive Abilities	0

	1	1		
	rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).			
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	
				-0.968
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	
	-			0
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0
Multi Limb Coordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	3.026
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	-1.095
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	
				0
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	0
				0

Oral Expression	The ability to communicate information and ideas in speaking so	Verbal Abilities	Cognitive Abilities	4 22 4
Omiginality	others will understand.			4.234 0.713
Originality Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-3.909
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	1.925
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	2.932
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	4.161
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with	Control Movement Abilities	Psychomotor Abilities	-4.639

	which the comment			
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of		Cognitive	
	time without being		Abilities	
	distracted.			0
Sound	The ability to tell the	Auditory and		0
Localisation	direction from which a	•	Sensory	
Localisation		Speech	Abilities	
	sound originated.	Abilities		0
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities	Cognitive	
	environment or to know		Abilities	
	where other objects are in		Admities	
	relation to you.			1.981
Speech Clarity	The ability to speak	Auditory and		
	clearly so others can	Speech	Sensory	
	understand you.	Abilities	Abilities	
	understand you.	Admines	Admities	1.652
G 1	TD1 1:12: 4 : 1 4:C 1	A 1'4 1		1.652
Speech	The ability to identify and	Auditory and	Sensory	
Recognition	understand the speech of	Speech	Abilities	
	another person.	Abilities	Tronnes	-1.95
Speed of	The ability to quickly	Perceptual		
Closure	make sense of, combine,	Abilities	Cognitive	
	and organize information		Abilities	
	into meaningful patterns.			6.196
Speed of Limb	The ability to quickly	Reaction Time		0.130
Movement			Psychomotor	
Movement	move the arms and legs.	and Speed	Abilities	0.044
~ .		Abilities		0.944
Stamina	The ability to exert	Endurance		
	yourself physically over			
	long periods of time		Physical	
	without getting winded or		Abilities	
	out of breath.			
				0.326
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength		
		Abilities	Physical	
	lift, push, pull, or carry	Aumues	Abilities	
	objects.			0.015
m: at :	TT1 1 111 1 1 1 1 1 1 1			0.915
Time Sharing	The ability to shift back	Attentiveness		
	and forth between two or			
	more activities or sources		Cognitive	
	of information (such as		Abilities	
	speech, sounds, touch, or			
	other sources).			0
L	onici sourcesj.	<u> </u>		I .

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	0.747
Visual Color Discrimination	The ability to match or detect differences between	Visual Abilities	Sensory	
	colors, including shades of color and brightness.		Abilities	
				5.791
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved	Spatial Abilities	Cognitive Abilities	
	or rearranged.			-0.98
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	-1.325
Written	The ability to read and	Verbal		
Comprehension	understand information	Abilities	Cognitive	
	and ideas presented in		Abilities	
	writing.			0
Written	The ability to	Verbal		
Expression	communicate information	Abilities	Cognitive	
	and ideas in writing so		Abilities	1.001
	others will understand.			-1.281
R Squared = 0.97	,		N=122324	

Table F2 Denmark Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0.244
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			
	questions as appropriate,			-0.785

	and not interrupting at			
	inappropriate times.			
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate	Complex Problem Solving	Cross Functional Skills	
	options and implement solutions.			-4.186
Coordination	Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-4.075
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches	Process	Basic Skills	
Equipment Maintenance	to problems. Performing routine maintenance on equipment and determining when and what kind of maintenance	Technical Skills	Cross Functional Skills	0
Equipment Selection	is needed. Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross Functional Skills	0.422
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Cross Functional Skills	0.122
Instructing	Teaching others how to do something.	Social Skills	Cross Functional Skills	-2.398
Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	Systems Skills	Cross Functional Skills	4.495
Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	Systems Skills	Cross Functional Skills	0.608
Management of Financial Resources	Determining how money will be spent to get the work done, and accounting for these expenditures.	Resource Management Skills	Cross functional Skills	0.000
	1			0.333

r	T	Ι_	H	1
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			0
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
Resources		SKIIIS	SKIIIS	1.501
26.1	best people for the job.	~	D : 01 !!!	1.581
Mathematics	Using mathematics to	Content	Basic Skills	
	solve problems.			0
Monitoring	Monitoring/Assessing	Process	Basic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-6.518
Nagatiatian		Social Skills	Cross	-0.316
Negotiation	Bringing others together	Social Skills		
	and trying to reconcile		functional	
	differences.		Skills	0.971
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	
	properly.			2.406
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	
Control	equipment of systems.	OKIIIS	Skills	-0.731
Onanations	Analyzina naada and	Technical	Cross	-0.731
Operations	Analyzing needs and			
Analysis	product requirements to	Skills	Functional	0.042
	create a design.		Skills	-0.913
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.		Skills	-1.933
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	
	purposes.		Skills	-0.781
Quality Control	Conducting tests and	Technical	Cross	0.701
	inspections of products,	Skills	functional	
Analysis	1 -	SKIIIS		
	services, or processes to		Skills	
	evaluate quality or			
	performance.			-0.843
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			
	in work related			
	documents.			
				0
Repairing	Repairing machines or	Technical	Cross	
Repairing		Skills	Functional	
	systems using the needed	SKIIIS		1 220
	tools.]	Skills	-1.338

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
				0.659
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	-0.389
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and understanding why they		Functional Skills	
	react as they do.			0
Speaking	Talking to others to convey information	Content	Basic Skills	
	effectively.			2.193
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect	Systems Skills	Cross Functional Skills	1.55
S 4	outcomes.	C .	C	-1.55
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
	system.			3.743
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-1.921
Time	Managing one's own time	Resource	Cross	1.721
Management	and the time of others.	Management Skills	Functional Skills	2.396
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0.832
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	
				1.263
R squared = 0.73			N=	122324

Table F Denmark People, Brains, Brawn Analysis

	Denmark – EU LFS
People	-0.007***
	(0.000)
Brains	-0.046***
	(0.001)
Brawn	0.014***
	(0.001)
People * Brains	-0.001***
_	(0.000)
People*Brawn	0.001***
	(0.000)
Brains*Brawn	0.000***
	(0.000)
N	122137
R Squared	7%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S9 Appendix. Individual country Estonia

Table G1 Estonia Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand	The ability to keep your	Fine		
Steadiness	hand and arm steady	manipulative		
	while moving your arm or	abilities	Psychomotor	
	while holding your arm		abilities	
	and hand in one position.			
				-3.599

Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	0.794
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	0.794
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	2.644
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-8.479
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	-1.647
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	6.82
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-1.164
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	0.543
Extent Flexibility	The ability to bend, stretch, twist, or reach	Flexibility, balance and coordination	Physical Abilities	-2.285

	with your body, arms,			
	and/or legs.			
Far Vision	The ability to see details	Visual	Sensory	
	at a distance.	Abilities	Abilities	-3.274
Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
	movements of the fingers	abilities	Psychomotor	
	of one or both hands to		abilities	
	grasp, manipulate, or			
	assemble very small			0.000
T1 '1'1'. C	objects.	D 1		0.988
Flexibility of	The ability to identify or	Perecptual		
Closure	detect a known pattern (a	Abilities	Cognitive	
	figure, object, word, or		abilities	
	sound) that is hidden in			0.526
F1 C	other distracting material.	т 1		0.526
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and	G :::	
	about a topic (the number	reasoning	Cognitive	
	of ideas is important, not	abilities	abilities	
	their quality, correctness,			<i>5.5.</i> 40
Glare	or creativity).	Visual		-5.548
	The ability to see objects	abilities	Sensory	
sensitivity	in the presence of glare or	abilities	abilities	-1.489
Grass Bady Ca	bright lighting.	Flexibility,		-1.469
Gross Body Co- ordination	The ability to coordinate the movement of your	Balance and		
Ofulliation	arms, legs, and torso	Coordination	Physical	
	together when the whole	Coordination	Abilities	
	body is in motion.		Admities	
	body is in motion.			1.37
Gross Body	The ability to keep or	Flexibility,		1.57
Equilibrium	regain your body balance	Balance and		
Equitoriani	or stay upright when in an	Coordination	Physical	
	unstable position.		Abilities	
	unstacte position.			0
Hearing	The ability to detect or tell	Auditory and		
Sensitivity	the differences between	Speech	Sanconi	
	sounds that vary in pitch	abilities	Sensory Abilities	
	and loudness.		Aumues	
				0
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
	form general rules or	and Reasoning		
	conclusions (includes	Abilities	Cognitive	
	finding a relationship		Abilities	
	among seemingly			
	unrelated events).			
				0

Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	Idea Generation and Reasoning Abilities	Cognitive Abilities	-2.993
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	1.922
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0.016
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	0
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	-0.298
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	0.0
Oral Comprehension	The ability to listen to and understand information and ideas presented	Verbal Abilities	Cognitive Abilities	1.838

	through spoken words and sentences.			
Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	2.239
Originality				1.124
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-6.342
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	0.947
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	3.415
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	2.162
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Response Orientation	The ability to choose quickly between two or more movements in response to two or more	Control Movement Abilities	Psychomotor Abilities	0

	T	T	Г	
	different signals (lights, sounds, pictures). It includes the speed with which the correct			
	response is started with the hand, foot, or other			
Selective	body part. The ability to concentrate	Attentiveness		
Attention	on a task over a period of time without being distracted.		Cognitive Abilities	0
Sound Localisation	The ability to tell the direction from which a sound originated.	Auditory and Speech Abilities	Sensory Abilities	-1.219
Spatial Orientation	The ability to know your location in relation to the environment or to know where other objects are in	Spatial Abilities	Cognitive Abilities	
Speech Clarity	relation to you. The ability to speak	Auditory and		0.892
Speech Charty	clearly so others can understand you.	Speech Abilities	Sensory Abilities	0.761
Speech Recognition	The ability to identify and understand the speech of another person.	Auditory and Speech Abilities	Sensory Abilities	0
Speed of Closure	The ability to quickly make sense of, combine, and organize information into meaningful patterns.	Perceptual Abilities	Cognitive Abilities	5.895
Speed of Limb Movement	The ability to quickly move the arms and legs.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Stamina	The ability to exert yourself physically over long periods of time without getting winded or out of breath.	Endurance	Physical Abilities	0
Static Strength	The ability to exert maximum muscle force to lift, push, pull, or carry objects.	Physical Strength Abilities	Physical Abilities	0
Time Sharing	The ability to shift back and forth between two or more activities or sources of information (such as	Attentiveness	Cognitive Abilities	1.877

	speech, sounds, touch, or other sources).			
Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	-0.773
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	4.178
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	0.405
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	0
R Squared = 0.97			N = 21645	

Table G2 Estonia Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			-0.771

-				
	being made, asking questions as appropriate, and not interrupting at inappropriate times.			
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement	Complex Problem Solving	Cross Functional Skills	
Coordination	solutions. Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-4.317
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	Process	Basic Skills	-2.277
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	Technical Skills	Cross Functional Skills	-0.188
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross Functional Skills	1.296
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Cross Functional Skills	0.214
Instructing	Teaching others how to do something.	Social Skills	Cross Functional Skills	-3.306
Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	Systems Skills	Cross Functional Skills	1.497
Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	Systems Skills	Cross Functional Skills	1.179
Management of Financial Resources	Determining how money will be spent to get the work done, and accounting for these expenditures.	Resource Management Skills	Cross functional Skills	0

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Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			-0.505
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
	best people for the job.			0
Mathematics	Using mathematics to	Content	Basic Skills	
Withingthe	solve problems.	Content	Busic Skills	0
Monitoring	Monitoring/Assessing	Process	Basic Skills	
Widilitoring	performance of yourself,	110008	Dasic Skills	
	1 *			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-5.397
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.		Skills	1.887
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	
	properly.			2.895
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	
	equipment of systems.		Skills	-0.305
Operations	Analyzing needs and	Technical	Cross	0.505
Analysis	product requirements to	Skills	Functional	
Allarysis	create a design.	OKIIIS	Skills	-1.081
Persuasion	Persuading others to	Social Skills	Cross	-1.061
Persuasion	\mathcal{C}	Social Skills		
	change their minds or		functional	
ъ .	behavior.	T 1 : 1	Skills	0
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	
	purposes.		Skills	0
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
	services, or processes to		Skills	
	evaluate quality or			
	performance.			-0.953
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			
1	in work related			
	documents.			
				0
Repairing	Repairing machines or	Technical	Cross	<u> </u>
Repairing	systems using the needed	Skills	Functional	
	tools.	GKIIIS	Skills	-1.489
	10015.		SKIIIS	-1.407

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	0.506
~ .		~	_	0.506
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and understanding why they		Functional Skills	
~ 1:	react as they do.	~	D : 01 !!!	0
Speaking	Talking to others to convey information	Content	Basic Skills	
	effectively.	_		0
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	0
System		Systems	Cross	0
Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Skills	Functional Skills	
m 1 1	system.	m 1 1 1		3.661
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-3.409
Time	Managing one's own time	Resource	Cross	
Management	and the time of others.	Management Skills	Functional Skills	3.43
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0
Writing	Communicating	Content	Basic Skills	0
writing	effectively in writing as appropriate for the needs of the audience.	Content	Dasic Skills	
				2.243
R squared = 0.85			N=	21645

Table G3 Estonia People, Brains, Brawn Analysis

	Estonia – EU LFS
People	-0.019***
	(0.001)
Brains	-0.175***
	(0.002)
Brawn	-0.009***
	(0.002)
People * Brains	0.018***
	(0.001)
People*Brawn	0.002***
	(0.000)
Brains*Brawn	-0.030***
	(0.001)
N	21615
R Squared	22%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S10 Appendix. Individual country Spain

Table H1 Spain Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand	The ability to keep your	Fine		
Steadiness	hand and arm steady	manipulative		
	while moving your arm or	abilities	Psychomotor	
	while holding your arm		abilities	
	and hand in one position.			
	_			-4.435

Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	0
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-2.173
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	2.781
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-5.576
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0.728
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	2.732
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-0.619
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	0.267
Extent Flexibility	The ability to bend, stretch, twist, or reach	Flexibility, balance and coordination	Physical Abilities	-1.675

	with your body, arms,			
Far Vision	and/or legs. The ability to see details at a distance.	Visual Abilities	Sensory Abilities	-2.498
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small	Fine manipulative abilities	Psychomotor abilities	
	objects.			2.178
Flexibility of Closure	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	Perecptual Abilities	Cognitive abilities	0
Fluency of ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	Ideas generation and reasoning abilities	Cognitive abilities	-3.008
Glare sensitivity	The ability to see objects in the presence of glare or bright lighting.	Visual abilities	Sensory abilities	-2.323
Gross Body Coordination	The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.	Flexibility, Balance and Coordination	Physical Abilities	
Gross Body	The ability to keep or	Flexibility,		0
Equilibrium	regain your body balance or stay upright when in an unstable position.	Balance and Coordination	Physical Abilities	
	•			0
Hearing Sensitivity	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	Auditory and Speech abilities	Sensory Abilities	-0.514
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	Idea Generation and Reasoning Abilities	Cognitive Abilities	0

Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	0
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	1.02
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	
Oral Comprehension	The ability to listen to and understand information and ideas presented	Verbal Abilities	Cognitive Abilities	0

	through spoken words and sentences.			
Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	3.015
Originality				0
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-5.982
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	3.045
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	2.671
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	1.954
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	3.098
Response Orientation	The ability to choose quickly between two or more movements in response to two or more	Control Movement Abilities	Psychomotor Abilities	-4.497

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	different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with			
	the hand, foot, or other body part.			
Selective Attention	The ability to concentrate on a task over a period of time without being distracted.	Attentiveness	Cognitive Abilities	0
Sound Localisation	The ability to tell the direction from which a sound originated.	Auditory and Speech Abilities	Sensory Abilities	-2.565
Spatial Orientation	The ability to know your location in relation to the environment or to know where other objects are in	Spatial Abilities	Cognitive Abilities	0.275
Speech Clarity	relation to you. The ability to speak clearly so others can understand you.	Auditory and Speech Abilities	Sensory Abilities	1.529
Speech Recognition	The ability to identify and understand the speech of another person.	Auditory and Speech Abilities	Sensory Abilities	-3.306
Speed of Closure	The ability to quickly make sense of, combine, and organize information into meaningful patterns.	Perceptual Abilities	Cognitive Abilities	5.823
Speed of Limb Movement	The ability to quickly move the arms and legs.	Reaction Time and Speed Abilities	Psychomotor Abilities	-1.424
Stamina	The ability to exert yourself physically over long periods of time without getting winded or out of breath.	Endurance	Physical Abilities	0.878
Static Strength	The ability to exert maximum muscle force to lift, push, pull, or carry objects.	Physical Strength Abilities	Physical Abilities	0.145
Time Sharing	The ability to shift back and forth between two or more activities or sources of information (such as	Attentiveness	Cognitive Abilities	3.203

	speech, sounds, touch, or other sources).			
Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	0.036
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	5.341
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-1.33
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	-1.56
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	-0.446
R Squared = 0.99			N = 75418	

Table H2 Spain Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the implications of new information for both current and future problem-solving and	Process	Basic Skills	
	decision-making.			0
Active Listening	Giving full attention to what other people are saying, taking time to	Content	Basic Skills	
	understand the points			-1.125

	being made, asking questions as appropriate, and not interrupting at inappropriate times.			
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement	Complex Problem Solving	Cross Functional Skills	
	solutions.			-3.327
Coordination	Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-6.541
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	Process	Basic Skills	-2.52
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	Technical Skills	Cross Functional Skills	-1.578
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross Functional Skills	3.176
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Cross Functional Skills	0.905
Instructing	Teaching others how to do something.	Social Skills	Cross Functional Skills	-4.126
Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	Systems Skills	Cross Functional Skills	4.165
Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	Systems Skills	Cross Functional Skills	1.779
Management of Financial Resources	Determining how money will be spent to get the work done, and accounting for these expenditures.	Resource Management Skills	Cross functional Skills	0

	T			1
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			-0.655
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
Treso di ves	best people for the job.			1.042
Mathematics	Using mathematics to	Content	Basic Skills	1.012
iviationaties	solve problems.	Content	Dasic Skills	0
Monitoring	Monitoring/Assessing	Process	Basic Skills	0
Monitoring		riocess	Dasic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-8.229
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.		Skills	1.016
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	
	properly.			4.51
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	
Control	equipment of systems.	OKIIIS	Skills	-1.505
Operations	Analyzing needs and	Technical	Cross	1.505
Analysis	product requirements to	Skills	Functional	
Allalysis		SKIIIS	Skills	-0.747
Damassasian	create a design.	Social Skills	1	-0./4/
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.	m 1 1 1	Skills	0
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	
	purposes.		Skills	0
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
	services, or processes to		Skills	
	evaluate quality or			
	performance.			-0.749
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			
1	in work related			
	documents.			
				0
Repairing	Repairing machines or	Technical	Cross	Ť
Topulling	systems using the needed	Skills	Functional	
	tools.		Skills	-2.459
	10015.	L	OWITIO	4.TJ)

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	0.567
<u> </u>	A .: 1 1 1: C	G : 1 G1 :11		0.307
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	-0.651
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and understanding why they react as they do.		Functional Skills	0
Spectring		Content	Basic Skills	U
Speaking	Talking to others to convey information	Content	Basic Skills	5.076
G	effectively.	G .	C	5.976
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect	Systems Skills	Cross Functional Skills	1.404
	outcomes.			-1.404
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
	system.			5.355
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-5.659
Time	Managing one's own time	Resource	Cross	
Management	and the time of others.	Management Skills	Functional Skills	3.92
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	1.146
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	
	of the audience.			0

H3 Spain People, Brains, Brawn Analysis

	Spain – EU LFS
People	-0.034***
	(0.001)
Brains	-0.118***
	(0.001)
Brawn	0.050***
	(0.001)
People * Brains	-0.003***
	(0.001)
People*Brawn	0.037***
	(0.001)
Brains*Brawn	-0.039***
	(0.001)
N	75403
R Squared	22%

S11 Appendix. Individual country Finland

Table I1 Finland Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities		
	p controll		-3.927	-3.927
Auditory Attention	The ability to focus on a single source of sound in the presence of other	Auditory and speech abilities		
	distracting sounds.		0	0

Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	-2.306	-2.306
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities		
	· · · · · · · · · · · · · · · · · · ·		3.07	3.07
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	-6.724	-6.724
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	01721	31721
			0	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination		
ъ :	TP1 1:1:4	D1 ' 1	3.385	3.385
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	-2.021	-2.021
Explosive	The ability to use short	Physical	-2.021	-2.021
Strength	bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Strength		
F 4 :	TD1 1 111 1 . 1	T1 '1 '1'.	0.578	0.578
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	-1.365	-1.365
Far Vision	The ability to see details	Visual	-1.303	-1.303
1 41 1 101011	The acting to see details	Abilities		I

E.	TE1 1:1:4 1	г.		
Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
	movements of the fingers	abilities		
	of one or both hands to			
	grasp, manipulate, or			
	assemble very small			
	objects.		2.681	2.681
Flexibility of	The ability to identify or	Perecptual	2.001	2.001
Closure	detect a known pattern (a	Abilities		
Closuic	<u> </u>	Admitics		
	figure, object, word, or			
	sound) that is hidden in		0.200	0.200
	other distracting material.		0.288	0.288
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
	about a topic (the number	reasoning		
	of ideas is important, not	abilities		
	their quality, correctness,			
	or creativity).		-3.484	-3.484
Glare	The ability to see objects	Visual		
sensitivity	in the presence of glare or	abilities		
Schistervity	bright lighting.	aomics	-2.553	-2.553
Casa Dada Ca		E1 11-1114	-2.333	-2.333
Gross Body Co-	The ability to coordinate	Flexibility,		
ordination	the movement of your	Balance and		
	arms, legs, and torso	Coordination		
	together when the whole			
	body is in motion.			
			0	0
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and		
1	or stay upright when in an	Coordination		
	unstable position.			
	1		0	0
Hearing	The ability to detect or tell	Auditory and		Ů
Sensitivity	the differences between	Speech		
Schsitivity	sounds that vary in pitch	abilities		
	and loudness.	aumities		
	and loudness.		0	
T 1	771 1 111	т 1	0	0
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
	form general rules or	and Reasoning		
	conclusions (includes	Abilities		
	finding a relationship			
	among seemingly			
	unrelated events).			
			0	0
Information	The ability to arrange	Idea		-
Ordering	things or actions in a	Generation		
Ordering				
	certain order or pattern	and Reasoning		
	according to a specific	Abilities	0	0

	I	1	1	1
	rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).			
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities		
			-0.829	-0.829
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities		
			0.621	0.621
Memorization	Abilities related to the recall of available	Quantitative Abilities		
M-14: I :1. C	information	Control	0	0
Multi Limb Coordination Near Vision	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities Near Vision	1.073	1.073
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	0	0
Night Vision	The ability to see under low light conditions	Near Vision	0	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities		
			-0.155	-0.155
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities		
			0	0

Oral Expression	The ability to	Verbal		
	communicate information	Abilities		
	and ideas in speaking so others will understand.		4.527	4.527
Originality	others will understand.		0	0
Perceptual	The ability to quickly and	Perceptual	0	0
Speed	accurately compare	Abilities		
- Fran	similarities and			
	differences among sets of			
	letters, numbers, objects,			
	pictures, or patterns. The			
	things to be compared			
	may be presented at the			
	same time or one after the			
	other. This ability also			
	includes comparing a			
	presented object with a remembered object.		-5.531	-5.531
Perceptual	The ability to see objects	Visual	-3.331	-3.331
Vision	or movement of objects to	Abilities		
	one's side when the eyes			
	are looking ahead.		3.391	3.391
Problem	The ability to tell when	Idea		
Sensitivity	something is wrong or is	generation and		
	likely to go wrong. It does	Reasoning		
	not involve solving the	Abilities		
	problem, only recognizing			
	there is a problem.		2.349	2.349
Rate Control	The ability to time your	Control		
	movements or the	Movement		
	movement of a piece of	Abilities		
	equipment in anticipation			
	of changes in the speed and/or direction of a			
	moving object or scene.			
	moving coject of beene.		2.422	2.422
Reaction Time	The ability to quickly	Reaction Time		
	respond (with the hand,	and Speed		
	finger, or foot) to a signal	Abilities		
	(sound, light, picture)			
D	when it appears.	C 1	2.546	2.546
Response Orientation	The ability to choose	Control Movement		
Offentation	quickly between two or more movements in	Abilities		
	response to two or more	7101111105		
	different signals (lights,			
	sounds, pictures). It			
	includes the speed with		-4.612	-4.612

	1 1 1 1		1	
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of			
	time without being			
	distracted.		0	0
Sound	The ability to tell the	Auditory and	Ü	- C
Localisation	direction from which a	Speech		
Localisation		Abilities	-3.091	-3.091
G .: 1	sound originated.		-3.091	-3.091
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities		
	environment or to know			
	where other objects are in			
	relation to you.		0.643	0.643
Speech Clarity	The ability to speak	Auditory and		
1	clearly so others can	Speech		
	understand you.	Abilities		
	understand you.	7 to miles	0.784	0.784
Speech	The ability to identify and	Auditory and	0.704	0.704
_		•		
Recognition	understand the speech of	Speech	1.664	1.664
~ 1 2	another person.	Abilities	-1.664	-1.664
Speed of	The ability to quickly	Perceptual		
Closure	make sense of, combine,	Abilities		
	and organize information			
	into meaningful patterns.		5.277	5.277
Speed of Limb	The ability to quickly	Reaction Time		
Movement	move the arms and legs.	and Speed		
	5	Abilities	0	0
Stamina	The ability to exert	Endurance		
Stamma	yourself physically over	Lindurance		
	1 2 2			
	long periods of time			
	without getting winded or			
	out of breath.			0.400
			0.423	0.423
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength		
	lift, push, pull, or carry	Abilities		
	objects.			
			0.955	0.955
Time Sharing	The ability to shift back	Attentiveness		
	and forth between two or			
	more activities or sources			
	of information (such as			
	speech, sounds, touch, or		2.47	2.47
	other sources).		2.47	2.47

Trunk Strength	The ability to use your	Physical		
	abdominal and lower back	Strength		
	muscles to support part of	Abilities		
	the body repeatedly or			
	continuously over time			
	without 'giving out' or			
	fatiguing.		0.127	0.127
Visual Color	The ability to match or	Visual		
Discrimination	detect differences between	Abilities		
	colors, including shades			
	of color and brightness.			
			4.892	4.892
Visualisation	The ability to imagine	Spatial		
	how something will look	Abilities		
	after it is moved around or			
	when its parts are moved			
	or rearranged.		-1.066	-1.066
Wrist-Finger	The ability to make fast,	Reaction Time		
Speed	simple, repeated	and Speed		
	movements of the fingers,	Abilities		
	hands, and wrists.		-1.641	-1.641
Written	The ability to read and	Verbal		
Comprehension	understand information	Abilities		
	and ideas presented in			
	writing.		0.716	0.716
Written	The ability to	Verbal		
Expression	communicate information	Abilities		
	and ideas in writing so			
	others will understand.		-0.624	-0.624
R Squared = 0.98			N = 22360	

Table I2 Finland Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	Coefficient
Active Learning		FIUCESS	Dasic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			0.704
	decision-making.	G	D : 01 !!!	0.794
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			
	questions as appropriate,			
	and not interrupting at			
	inappropriate times.			-2.916
Complex	Identifying complex	Complex	Cross	
Problem Solving	problems and reviewing	Problem	Functional	
	related information to	Solving	Skills	
	develop and evaluate			
	options and implement			
	solutions.			-3.736
Coordination	Adjusting actions in	Social Skills	Cross	
	relation to others' actions.		Functional	
			Skills	-7.226
Critical	Using logic and reasoning	Process	Basic Skills	
Thinking	to identify the strengths			
_	and weaknesses of			
	alternative solutions,			
	conclusions or approaches			
	to problems.			-2.846
Equipment	Performing routine	Technical	Cross	
Maintenance	maintenance on equipment	Skills	Functional	
	and determining when and		Skills	
	what kind of maintenance			
	is needed.			-3.306
Equipment	Determining the kind of	Technical	Cross	
Selection	tools and equipment	Skills	Functional	
	needed to do a job.		Skills	2.111
Installation	Installing equipment,	Technical	Cross	
	machines, wiring, or	Skills	Functional	
	programs to meet		Skills	
	specifications.			0.78
Instructing	Teaching others how to do	Social Skills	Cross	0.,0
mon woming	something.	Social Skills	Functional	
	Somouning.		Skills	-3.504
Judgement and	Considering the relative	Systems	Cross	3.304
Decision	costs and benefits of	Skills	Functional	
Making		SKIIIS	Skills	5.053
iviakilig			DKIII2	5.055

	potential actions to choose			
	the most appropriate one.			
Learning	Selecting and using	Systems	Cross	
Strategies	training/instructional	Skills	Functional	
Strategies	methods and procedures	SKIIIS	Skills	
	appropriate for the		OKIIIS	
	situation when learning or			
	teaching new things.			2.083
Management of	Determining how money	Resource	Cross	2.003
Financial	will be spent to get the	Management	functional	
Resources	work done, and accounting	Skills	Skills	
Resources	for these expenditures.	OKIIIS	OKIIIS	
	for these expenditures.			0
Management of	Obtaining and seeing to	Resource	Cross	0
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
Resources	materials needed to do	SKIIIS	SKIIIS	
	certain work.			-0.678
Management of	Motivating, developing,	Resource	Cross	-0.076
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
Resources	best people for the job.	SKIIIS	SKIIIS	1.651
Mathematics	Using mathematics to	Content	Basic Skills	1.031
Wathematics	solve problems.	Content	Dasic Skills	0
Monitoring	Monitoring/Assessing	Process	Basic Skills	0
Widilitoring	performance of yourself,	110003	Dasic Skills	
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-8.509
Negotiation	Bringing others together	Social Skills	Cross	0.507
regonation	and trying to reconcile	Social Skills	functional	
	differences.		Skills	1.244
Operation	Watching gauges, dials, or	Technical	Cross	1.277
Monitoring	other indicators to make	Skills	Functional	
Widilitoring	sure a machine is working	SKIIIS	Skills	
	properly.		OKIIIS	5.044
Operation and	Controlling operations of	Technical	Cross	3.044
Control	equipment or systems.	Skills	Functional	
Control	equipment of systems.	SKIIIS	Skills	-0.765
Operations	Analyzing needs and	Technical	Cross	0.705
Analysis	product requirements to	Skills	Functional	
1 11141 3 515	create a design.		Skills	0
Persuasion	Persuading others to	Social Skills	Cross	
1 01500051011	change their minds or	Social Skills	functional	
	behavior.		Skills	0
Programming	Writing computer	Technical	Cross	<u> </u>
110gramming	programs for various	Skills	functional	
	purposes.	SKIIIS	Skills	0
	parposes.	l	OKIIIS	Į V

Quality Control Analysis	Conducting tests and inspections of products, services, or processes to evaluate quality or performance.	Technical Skills	Cross functional Skills	-1.557
Reading Comprehension	Understanding written sentences and paragraphs in work related documents.	Content	Basic Skills	0.897
Repairing	Repairing machines or systems using the needed tools.	Technical Skills	Cross Functional Skills	-0.34
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	0
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	Social Skills	Cross Functional Skills	0
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	4.638
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	0
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
	system.			3.24
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-4.807
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	4.213

Troubleshooting	Determining causes of operating errors and deciding what to do about	Technical Skills	Cross Functional Skills	
	it.		SKIIIS	0.716
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	0
R squared = 0.80			N=	22360

Table I3 Finland People, Brains, Brawn Analysis

	Finland – EU LFS
People	0.006***
	(0.001)
Brains	-0.058***
	(0.001)
Brawn	0.022***
	(0.001)
People * Brains	-0.001**
_	(0.001)
People*Brawn	-0.004***
-	(0.000)
Brains*Brawn	-0.011***
	(0.001)
N	22315
R Squared	16%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S12 Appendix. Individual country France

Table J1France Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm		Psychomotor	
	or while holding your arm and hand in one position.	-	abilities	
		3.075		-3.075
Auditory	The ability to focus on a single			
Attention	source of sound in the presence of		Sensory	
	other distracting sounds.		Abilities	
		0		0
Category	The ability to generate or use	-	Cognitive	
Flexibility	different sets of rules for	3.187	Abilities	-3.187

	·			
	combining or grouping things in different ways.			
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.		Psychomotor Abilities	
		1.775		1.775
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	- 4.528	Cognitive Abilities	-4.528
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.		Sensory Abilities	
		0.61		0.61
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	2 2 4 7	Physical Abilities	2.245
D :	TTI 1:11:4 4 1 C	3.247		3.247
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.		Physical Abilities	
Evelogiva	The chility to use short hyrests of	0		0
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	0.238	Physical Abilities	0.238
Extent	The ability to bend, stretch, twist,	0.230		0.230
Flexibility	or reach with your body, arms, and/or legs.	-1.55	Physical Abilities	-1.55
Far Vision	The ability to see details at a distance.	0	Sensory Abilities	0
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.	1.799	Psychomotor abilities	1.799
Flexibility of Closure	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	0	Cognitive abilities	0

E1 0:1	m 1 111	1		
Fluency of ideas	The ability to come up with a			
	number of ideas about a topic (the		Cognitive	
	number of ideas is important, not		abilities	
	their quality, correctness, or	-		
	creativity).	1.445		-1.445
Glare sensitivity	The ability to see objects in the	-	Sensory	
	presence of glare or bright lighting.	4.373	abilities	-4.373
Gross Body Co-	The ability to coordinate the			
ordination	movement of your arms, legs, and		Physical	
	torso together when the whole		Abilities	
	body is in motion.		710111105	
		0		0
Gross Body	The ability to keep or regain your			
Equilibrium	body balance or stay upright when		Physical	
	in an unstable position.		Abilities	
		0		0
Hearing	The ability to detect or tell the			
Sensitivity	differences between sounds that		Sensory	
	vary in pitch and loudness.	-	Abilities	
		0.321		-0.321
Inductive	The ability to combine pieces of			
Reasoning	information to form general rules			
	or conclusions (includes finding a		Cognitive	
	relationship among seemingly		Abilities	
	unrelated events).			
		0.57		0.57
Information	The ability to arrange things or			
Ordering	actions in a certain order or pattern			
	according to a specific rule or set		Cognitive	
	of rules (e.g., patterns of numbers,		Abilities	
	letters, words, pictures,		Admics	
	mathematical operations).			
		0		0
Manual	The ability to quickly move your			
Dexterity	hand, your hand together with your		Psychomotor	
	arm, or your two hands to grasp,		Abilities	
	manipulate, or assemble objects.	-	Admics	
		0.164		-0.164
Math Reasoning	The ability to choose the right			
	mathematical methods or formulas		Cognitive	
	to solve a problem.		Abilities	
		1.56		1.56
Memorization	Abilities related to the recall of		Cognitive	
	available information	0	Abilities	0
Multi Limb Co-	The ability to coordinate two or			
ordination	more limbs (for example, two		Develometer	
	arms, two legs, or one leg and one		Psychomotor Abilities	
	arm) while sitting, standing, or		Aumues	
İ	lying down. It does not involve	1.969		1.969

	performing the activities while the			
	whole body is in motion.			
NT	771 1 111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Near Vision	The ability to see details at close		Visual	
	range (within a few feet of the		Abilities	_
	observer)	0		0
Night Vision	The ability to see under low light		Visual	
	conditions	3.904	Abilities	3.904
Number Facility	The ability to add, subtract,			
-	multiply, or divide quickly and		G :::	
	correctly.		Cognitive	
		_	Abilities	
		1.656		-1.656
Oral	The ability to listen to and	11000		1,000
Comprehension	understand information and ideas			
Comprehension	presented through spoken words		Cognitive	
	and sentences.		Abilities	
	and semences.	2.007		2.097
O1 E	The -1:1144	2.097		2.097
Oral Expression	The ability to communicate		Cognitive	
	information and ideas in speaking	1.042	Abilities	1.042
	so others will understand.	1.942		1.942
Originality		0		0
Perceptual	The ability to quickly and			
Speed	accurately compare similarities			
	and differences among sets of			
	letters, numbers, objects, pictures,			
	or patterns. The things to be		Cognitive	
	compared may be presented at the		Abilities	
	same time or one after the other.			
	This ability also includes			
	comparing a presented object with	_		
	a remembered object.	5.757		-5.757
Perceptual	The ability to see objects or		_	
Vision	movement of objects to one's side		Sensory	
V 151011	when the eyes are looking ahead.	0	Abilities	0
Problem	The ability to tell when something	U		
Sensitivity	is wrong or is likely to go wrong.			
Schouvity	It does not involve solving the		Cognitive	
	_		Abilities	
	problem, only recognizing there is		Admines	
	a problem.	1 255		1 255
D + C + 1	771 1 1114 4 4	1.255		1.255
Rate Control	The ability to time your			
	movements or the movement of a			
	piece of equipment in anticipation		Psychomotor	
	of changes in the speed and/or		Abilities	
	direction of a moving object or			
	scene.			
		3.481		3.481

Reaction Time	The chility to avialsly magnened			
Reaction Time	The ability to quickly respond		D1	
	(with the hand, finger, or foot) to a		Psychomotor	
	signal (sound, light, picture) when	2 20 4	Abilities	2 20 4
_	it appears.	3.284		3.284
Response	The ability to choose quickly			
Orientation	between two or more movements			
	in response to two or more			
	different signals (lights, sounds,		Psychomotor	
	pictures). It includes the speed		Abilities	
	with which the correct response is			
	started with the hand, foot, or other	-		
	body part.	5.164		-5.164
Selective	The ability to concentrate on a task		a :::	
Attention	over a period of time without being		Cognitive	
	distracted.	0	Abilities	0
Sound	The ability to tell the direction	_	Sensory	
Localisation	from which a sound originated.	1.245	Abilities	-1.245
Spatial	The ability to know your location	1.2 13	1101111100	1.210
Orientation	in relation to the environment or to		Cognitive	
Officiliation			Abilities	
	know where other objects are in	0.045	Admittes	0.045
C 1. C1: 4	relation to you.	0.043		0.043
Speech Clarity	The ability to speak clearly so		Sensory	
	others can understand you.		Abilities	0
		0		0
Speech	The ability to identify and		Sensory	
Recognition	understand the speech of another	-	Abilities	
	person.	3.058	710111105	-3.058
Speed of	The ability to quickly make sense			
Closure	of, combine, and organize		Cognitive	
	information into meaningful		Abilities	
	patterns.	5.115		5.115
Speed of Limb	The ability to quickly move the		Davidoniaton	
Movement	arms and legs.	_	Psychomotor	
		1.453	Abilities	-1.453
Stamina	The ability to exert yourself			
	physically over long periods of			
	time without getting winded or out		Physical	
	of breath.		Abilities	
	or oroun.	0.441		0.441
Static Strength	The ability to exert maximum	0.771		V.TT1
Static Strength	muscle force to lift, push, pull, or		Physical	
			Abilities	
	carry objects.	0.588	Aumues	0.500
Time Chemine	The shiller to shift he should be	0.388		0.588
Time Sharing	The ability to shift back and forth			
	between two or more activities or		Cognitive	
	sources of information (such as		Abilities	
	speech, sounds, touch, or other	0.1.5		0.110
	sources).	3.113		3.113

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	- 0.406	Physical Abilities	-0.406
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	3.947	Sensory Abilities	3.947
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	- 1.684	Cognitive Abilities	-1.684
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	- 2.102	Psychomotor Abilities	-2.102
Written Comprehension	The ability to read and understand information and ideas presented in writing.	0	Cognitive Abilities	0
Written Expression	The ability to communicate information and ideas in writing so others will understand.	0	Cognitive Abilities	0
R Squared = 0.98			367079	

Table J2 France Skills Lasso Analysis

	ills Lasso Analysis	T	1	Γ
ONET Item	Description			Coefficient
Active Learning	Understanding the implications of new information for both current and future problem-solving and	Process	Basic Skills	
	decision-making.			2.585
Active Listening	Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.	Content	Basic Skills	1.72
Complex	Identifying complex	Complex	Cross	1.72
Problem Solving	problems and reviewing related information to develop and evaluate options and implement	Problem Solving	Functional Skills	
	solutions.			-1.043
Coordination	Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-5.876
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	Process	Basic Skills	-3.085
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance	Technical Skills	Cross Functional Skills	
Fauinment	is needed. Determining the kind of	Technical	Cross	0
Equipment Selection	tools and equipment needed to do a job.	Skills	Functional Skills	0
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Cross Functional Skills	0
Instructing	Teaching others how to do something.	Social Skills	Cross Functional Skills	-3.466

T 1 1	C111	C4	C	
Judgement and	Considering the relative	Systems	Cross	
Decision	costs and benefits of	Skills	Functional	
Making	potential actions to choose		Skills	
	the most appropriate one.			2.687
Learning	Selecting and using	Systems	Cross	
Strategies	training/instructional	Skills	Functional	
Strategies	_	DKIIIS	Skills	
	methods and procedures		SKIIIS	
	appropriate for the			
	situation when learning or			
	teaching new things.			0
Management of	Determining how money	Resource	Cross	
Financial	will be spent to get the	Management	functional	
Resources	work done, and accounting	Skills	Skills	
1105001005	for these expenditures.			
	for these expenditures.			0
Managamantaf	Obtaining and socioests	Resource	Cross	0
Management of	Obtaining and seeing to			
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			-0.712
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
Resources	, ,	OKIIIS	SKIIIS	2.68
M-414:	best people for the job.	C t t	D: - C1-:11 -	2.06
Mathematics	Using mathematics to	Content	Basic Skills	
	solve problems.			0
Monitoring	Monitoring/Assessing	Process	Basic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-3.585
Negotiation	Bringing others together	Social Skills	Cross	3.303
Negotiation		Social Skills		
	and trying to reconcile		functional	1.64
	differences.		Skills	1.64
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	
	properly.			2.251
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	
	equipment of systems.		Skills	-0.402
Operations	Analyzina noods and	Technical	Cross	30.702
Operations	Analyzing needs and			
Analysis	product requirements to	Skills	Functional	1
	create a design.		Skills	-1.353
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.		Skills	-0.682
	1	1	I	

Programming	Writing computer programs for various purposes.	Technical Skills	Cross functional Skills	-0.608
Quality Control Analysis	Conducting tests and inspections of products, services, or processes to evaluate quality or	Technical Skills	Cross functional Skills	
	performance.			0
Reading Comprehension	Understanding written sentences and paragraphs in work related documents.	Content	Basic Skills	
				-3.358
Repairing	Repairing machines or systems using the needed tools.	Technical Skills	Cross Functional Skills	
			D : 01 !!!	0
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
	1			1.539
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	1.054
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	Social Skills	Cross Functional Skills	-2.404
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	0
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect	Systems Skills	Cross Functional Skills	
System Evaluation	outcomes. Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	-1.958
T11	system.	T11	Constant	3.461
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-1.35

Time	Managing one's own time	Resource	Cross	
Management	and the time of others.	Management	Functional	
		Skills	Skills	4.13
Troubleshooting	Determining causes of	Technical	Cross	
	operating errors and	Skills	Functional	
	deciding what to do about		Skills	
	it.			-1.584
Writing	Communicating	Content	Basic Skills	
	effectively in writing as			
	appropriate for the needs			
	of the audience.			
				2.472
R squared = 0.83			N=	367079

Table J3 France People, Brains, Brawn Analysis

	France – EU LFS
People	-0.063***
	(0.001)
Brains	-0.105***
	(0.001)
Brawn	0.059***
	(0.000)
People * Brains	-0.004***
Dianis	(0.000)
People*Brawn	-0.013***
	(0.000)
Brains*Brawn	-0.030***
	(0.000)
N	366900
R Squared	21%

S13 Appendix. Individual country Greece

Table K1 Greece Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	-0.294
Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	-1.395

Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	0.058
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	2.633
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	4.544
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	0
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	0
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	0
Far Vision	The ability to see details at a distance.	Visual Abilities	Sensory Abilities	0

Ein on "	The alailite to1	Eine		
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small	Fine manipulative abilities	Psychomotor abilities	0.563
	objects.			0.563
Flexibility of Closure	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	Perecptual Abilities	Cognitive abilities	0
Fluency of ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	Ideas generation and reasoning abilities	Cognitive abilities	-1.846
Glare sensitivity	The ability to see objects in the presence of glare or bright lighting.	Visual abilities	Sensory abilities	-2.368
Gross Body Co- ordination	The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.	Flexibility, Balance and Coordination	Physical Abilities	-0.532
Gross Body Equilibrium	The ability to keep or regain your body balance or stay upright when in an unstable position.	Flexibility, Balance and Coordination	Physical Abilities	-1.323
Hearing Sensitivity	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	Auditory and Speech abilities	Sensory Abilities	0
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	Idea Generation and Reasoning Abilities	Cognitive Abilities	-2.039
Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific	Idea Generation and Reasoning Abilities	Cognitive Abilities	0

	rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).			
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	-0.704
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	1.572
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	0
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	1.132
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	-2.091

Oral Expression	The ability to communicate information and ideas in speaking so	Verbal Abilities	Cognitive Abilities	
	others will understand.			3.394
Originality				0
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-3.407
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	0
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	0.92
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	2.834
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	1.035
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with	Control Movement Abilities	Psychomotor Abilities	-1.42

		1	I	I
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	1	7 tttellti velless	Coomitivo	
Attention	on a task over a period of		Cognitive	
	time without being		Abilities	
	distracted.			0
Sound	The ability to tell the	Auditory and	C	
Localisation	direction from which a	Speech	Sensory	
	sound originated.	Abilities	Abilities	0
Contin1				0
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities	Cognitive	
	environment or to know		Abilities	
	where other objects are in		Admines	
	relation to you.			1.103
Speech Clarity	The ability to speak	Auditory and		
Speccii Clarity		•	C	
	clearly so others can	Speech	Sensory	
	understand you.	Abilities	Abilities	
				0
Speech	The ability to identify and	Auditory and	G	
Recognition	understand the speech of	Speech	Sensory	
Recognition	another person.	Abilities	Abilities	-0.649
C 1 C				-0.049
Speed of	The ability to quickly	Perceptual		
Closure	make sense of, combine,	Abilities	Cognitive	
	and organize information		Abilities	
	into meaningful patterns.			4.065
Speed of Limb	The ability to quickly	Reaction Time		
Movement	move the arms and legs.	and Speed	Psychomotor	
WIOVCIIICIII	move the arms and legs.	_	Abilities	4 25 4
		Abilities		-4.254
Stamina	The ability to exert	Endurance		
	yourself physically over			
	long periods of time		Physical	
	without getting winded or		Abilities	
	out of breath.		1101111010	
	out of ofcatif.			2 122
G G	m1 1 11 .	D1 1 1		2.122
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength	Physical	
	lift, push, pull, or carry	Abilities		
	objects.		Abilities	
	- 2,2-22			1.106
Time of Classics	The chility to alsi 4 to 1.	Attactions		1.100
Time Sharing	The ability to shift back	Attentiveness		
	and forth between two or			
	more activities or sources		Cognitive	
	of information (such as		Abilities	
	speech, sounds, touch, or			
	other sources).			0
	omei sources).	L		U

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	-1.004
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	0
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-0.599
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	-0.197
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	0
R Squared = 0.97	,		N = 152074	

Table K2 Greece Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			2.127

A .: T :	C: : C 11: .		D : 01:11	
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			
	questions as appropriate,			
	and not interrupting at			
	ž –			0
G 1	inappropriate times.	G 1	0	U
Complex	Identifying complex	Complex	Cross	
Problem Solving	problems and reviewing	Problem	Functional	
	related information to	Solving	Skills	
	develop and evaluate			
	options and implement			
	solutions.			0
Coordination	Adjusting actions in	Social Skills	Cross	
Coordination	relation to others' actions.	Social Skills	Functional	
	relation to others actions.		Skills	1 671
G '' 1	TT 1 1 1 1 1	D		-4.671
Critical	Using logic and reasoning	Process	Basic Skills	
Thinking	to identify the strengths			
	and weaknesses of			
	alternative solutions,			
	conclusions or approaches			
	to problems.			-1.523
Equipment	Performing routine	Technical	Cross	
Maintenance	maintenance on equipment	Skills	Functional	
Wiamitchance		OKIIIS	Skills	
	and determining when and		SKIIIS	
	what kind of maintenance			0.000
	is needed.			-0.898
Equipment	Determining the kind of	Technical	Cross	
Selection	tools and equipment	Skills	Functional	
	needed to do a job.		Skills	0.154
Installation	Installing equipment,	Technical	Cross	
	machines, wiring, or	Skills	Functional	
	programs to meet		Skills	
	specifications.		SKIIIS	-0.228
I		Social Skills	Constant	-0.228
Instructing	Teaching others how to do	Social Skills	Cross	
	something.		Functional	
			Skills	-3.095
Judgement and	Considering the relative	Systems	Cross	
Decision	costs and benefits of	Skills	Functional	
Making	potential actions to choose		Skills	
	the most appropriate one.			0
Learning	Selecting and using	Systems	Cross	
Strategies	training/instructional	Skills	Functional	
Strategies	methods and procedures	~IIII	Skills	
			SKIIIS	
	appropriate for the			
	situation when learning or			0.453
	teaching new things.			0.452

	<u> </u>		_	
Management of	Determining how money	Resource	Cross	
Financial	will be spent to get the	Management	functional	
Resources	work done, and accounting	Skills	Skills	
	for these expenditures.			0
Management of	Obtaining and seeing to	Resource	Cross	Ŭ
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			-0.762
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	1 402
N. (1	best people for the job.		Basic Skills	1.493
Mathematics	Using mathematics to	Content	Basic Skills	0
Monitoring	solve problems. Monitoring/Assessing	Process	Basic Skills	0
Widilioilig	performance of yourself,	Flocess	Dasic Skills	
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-4.5
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.		Skills	3.851
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	1 150
On anotic man d	properly.	Technical	Cuasa	1.152
Operation and Control	Controlling operations of	Skills	Cross Functional	
Connor	equipment or systems.	SKIIIS	Skills	0
Operations	Analyzing needs and	Technical	Cross	0
Analysis	product requirements to	Skills	Functional	
	create a design.		Skills	-0.872
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.		Skills	-2.221
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	
0 11: 6 1	purposes.	m 1 : 1	Skills	0.456
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
	services, or processes to evaluate quality or		Skills	
	performance.			-1.015
Reading	Understanding written	Content	Basic Skills	-1.013
Comprehension	sentences and paragraphs		Dusic Skiiis	-1.137
Comprehension	semences and paragraphs	1	1	1.15/

	in work related			
	documents.			
Repairing	Repairing machines or systems using the needed tools.	Technical Skills	Cross Functional Skills	-0.238
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	-0.238
	1			1.197
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	Social Skills	Cross Functional Skills	0
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	0
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect	Systems Skills	Cross Functional Skills	
	outcomes.			-3.122
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
	system.			4.379
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-2.618
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	3.711
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	1.485
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	
	1		1	1.43

R squared $= 0.94$		N=	152074	i
K squared – 0.94		14—	1320/4	

Table K3 Greece People, Brains, Brawn Analysis

	Greece - EU LFS
People	0.021***
	(0.000)
Brains	-0.167***
	(0.001)
Brawn	0.139***
	(0.001)
People * Brains	-0.002***
_	(0.000)
People*Brawn	0.001***
-	(0.000)
Brains*Brawn	-0.021***
	(0.000)
N	151948
R Squared	37%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S14 Appendix. Individual country Hungary

Table L1 Hungary Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	-4.599
Auditory Attention	The ability to focus on a single source of sound in	Auditory and speech abilities	Sensory Abilities	0

		ı	1	1
	the presence of other distracting sounds.			
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-1.448
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	2.007
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-6.082
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0.497
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	3.006
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-0.507
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	1.048
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-2.208

Far Vision	The chility to see details	Vierra 1	Canada	
Far Vision	The ability to see details	Visual	Sensory	2.704
	at a distance.	Abilities	Abilities	-2.784
Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
•	movements of the fingers	abilities		
	of one or both hands to		Psychomotor	
			abilities	
	grasp, manipulate, or			
	assemble very small			
	objects.			3.431
Flexibility of	The ability to identify or	Perecptual		
Closure	detect a known pattern (a	Abilities	G :::	
	figure, object, word, or		Cognitive	
	sound) that is hidden in		abilities	
				0
F1 C	other distracting material.	т 1		0
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
	about a topic (the number	reasoning	Cognitive	
	of ideas is important, not	abilities	abilities	
	their quality, correctness,			
	or creativity).			-3.217
Glare	The ability to see objects	Visual		3.217
			Sensory	
sensitivity	in the presence of glare or	abilities	abilities	2 (12
	bright lighting.			-2.612
Gross Body Co-	The ability to coordinate	Flexibility,		
ordination	the movement of your	Balance and		
	arms, legs, and torso	Coordination	Physical	
	together when the whole		Abilities	
	body is in motion.		110111110	
	body is in motion.			0
C D 1	TP1 1 111 1 1	E1 '1 '1'.		U
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and	Physical	
	or stay upright when in an	Coordination	Abilities	
	unstable position.		Admines	
	1			0
Hearing	The ability to detect or tell	Auditory and		
Sensitivity	the differences between	Speech		
Schsilivity		-	Sensory	
	sounds that vary in pitch	abilities	Abilities	
	and loudness.			
				-1.104
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
	form general rules or	and Reasoning		
	conclusions (includes	Abilities	Cognitive	
	`	Aumues	Abilities	
	finding a relationship		Admues	
	among seemingly			
	unrelated events).			
				0
Information	The ability to arrange	Idea	Cognitive	
Ordering	things or actions in a	Generation	Abilities	-2.258

	certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	and Reasoning Abilities		
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	0.501
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	1.04
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	-0.379
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	0.615
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	-0.615 1.606

Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	1.957
Originality				0
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-5.517
Perceptual	The ability to see objects	Visual		-3.317
Vision	or movement of objects to one's side when the eyes are looking ahead.	Abilities	Sensory Abilities	2.063
Problem	The ability to tell when	Idea		
Sensitivity	something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	generation and Reasoning Abilities	Cognitive Abilities	
				3.106
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	2.202
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	2.203
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It	Control Movement Abilities	Psychomotor Abilities	-3.674

	. 1 1 21 4 1.4		<u> </u>	<u> </u>
	includes the speed with			
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of		Cognitive	
	time without being		Abilities	
	distracted.			0
Sound	The ability to tell the	Auditory and		
Localisation	direction from which a	Speech	Sensory	
Localisation	sound originated.	Abilities	Abilities	-1.772
Spatial	The ability to know your	Spatial		-1.//2
Orientation	location in relation to the	Abilities		
Orientation		Admities	Cognitive	
	environment or to know		Abilities	
	where other objects are in			0.024
	relation to you.			0.834
Speech Clarity	The ability to speak	Auditory and		
	clearly so others can	Speech	Sensory	
	understand you.	Abilities	Abilities	
				1.21
Speech	The ability to identify and	Auditory and	C	
Recognition	understand the speech of	Speech	Sensory	
	another person.	Abilities	Abilities	-3.15
Speed of	The ability to quickly	Perceptual		
Closure	make sense of, combine,	Abilities	Cognitive	
Closure	and organize information	7 tonities	Abilities	
	into meaningful patterns.		Aomics	5.905
Canad of Limb		Reaction Time		3.903
Speed of Limb	The ability to quickly		Psychomotor	
Movement	move the arms and legs.	and Speed	Abilities	
	mi 1 '1'	Abilities		0
Stamina	The ability to exert	Endurance		
	yourself physically over			
	long periods of time		Physical	
	without getting winded or		Abilities	
	out of breath.			
				0
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength	D1 : 1	
	lift, push, pull, or carry	Abilities	Physical	
	objects.		Abilities	
				0
Time Sharing	The ability to shift back	Attentiveness		
Time Sharing	and forth between two or	Auchiveness		
			G	
	more activities or sources		Cognitive	
	of information (such as		Abilities	
	speech, sounds, touch, or			2 600
	other sources).			3.609

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or	Physical Strength Abilities	Physical Abilities	
	fatiguing.			0
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	5.593
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-1.139
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	-1.083
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	0
R Squared = 0.99	1		N = 164373	

Table L2 Hungary Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			
	questions as appropriate,			-2.731

	and not interrupting at			
Complex Problem Solving	inappropriate times. Identifying complex problems and reviewing	Complex Problem	Cross Functional	
	related information to develop and evaluate options and implement	Solving	Skills	
	solutions.			-0.864
Coordination	Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-5.269
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches	Process	Basic Skills	
	to problems.	m 1 : 1		-1.674
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance	Technical Skills	Cross Functional Skills	
	is needed.			0
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross Functional Skills	2.235
Installation	Installing equipment, machines, wiring, or programs to meet	Technical Skills	Cross Functional Skills	0.393
Instructing	specifications. Teaching others how to do something.	Social Skills	Cross Functional Skills	-3.135
Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose	Systems Skills	Cross Functional Skills	
Learning Strategies	the most appropriate one. Selecting and using training/instructional	Systems Skills	Cross Functional	2.713
~	methods and procedures appropriate for the situation when learning or teaching new things.		Skills	1.179
Management of Financial Resources	Determining how money will be spent to get the work done, and accounting for these expenditures.	Resource Management Skills	Cross functional Skills	
	•			0

3.6			T @	1
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			-0.532
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
11000011000	best people for the job.			0
Mathematics	Using mathematics to	Content	Basic Skills	
Wathematics	solve problems.	Content	Dasic Skills	0
Monitoring	-	Process	Basic Skills	0
Monitoring	Monitoring/Assessing	Flocess	Dasic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-7.035
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.		Skills	2.909
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
Williams	sure a machine is working		Skills	
	properly.		SKIIIS	3.996
Operation and	Controlling operations of	Technical	Cross	3.770
Control		Skills	Functional	
Control	equipment or systems.	SKIIIS		1.265
		T 1 : 1	Skills	-1.365
Operations	Analyzing needs and	Technical	Cross	
Analysis	product requirements to	Skills	Functional	
	create a design.		Skills	-1.566
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.		Skills	-0.827
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	
	purposes.		Skills	0
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
Allarysis	services, or processes to	GKIIIS	Skills	
	· •		SKIIIS	
	evaluate quality or			0.62
D 1'	performance.	G	D : 01:11	-0.62
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			
	in work related			
	documents.			
				0
Repairing	Repairing machines or	Technical	Cross	
_	systems using the needed	Skills	Functional	
	tools.		Skills	-2.27
	•	•	•	•

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	0.778
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0.778
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	Social Skills	Cross Functional Skills	-0.896
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	5.296
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	0
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.	Systems Skills	Cross Functional Skills	3.779
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-4.34
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	4.124
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	0
R squared = 0.86			N=	164373

Table L4 Hungary People, Brains, Brawn Analysis

	Hungary – EU LFS
People	0.053***
	(0.000)
Brains	-0.171***
	(0.001)
Brawn	0.064***
	(0.001)
People * Brains	-0.020***
	(0.000)
People*Brawn	-0.001***
	(0.000)
Brains*Brawn	-0.084***
	(0.001)
N	164214
R Squared	30%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S15 Appendix. Individual country Croatia

Table M1 Croatia Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	-0.898
Auditory Attention	The ability to focus on a single source of sound in the presence	Auditory and speech abilities	Sensory Abilities	0

	of other distracting sounds.			
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	0.138
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-4.641
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	2.394
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	5.402
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-0.974
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or	Physical Strength	Physical Abilities	0.415

	sprinting), or to throw an object.			
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-0.761
Far Vision	The ability to see details at a distance.	Visual Abilities	Sensory Abilities	-0.47
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.	Fine manipulative abilities	Psychomotor abilities	0.728
Flexibility of Closure	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	Perecptual Abilities	Cognitive abilities	0
Fluency of ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	Ideas generation and reasoning abilities	Cognitive abilities	-2.232
Glare sensitivity	The ability to see objects in the presence of glare or bright lighting.	Visual abilities	Sensory abilities	-2.893
Gross Body Co-ordination	The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.	Flexibility, Balance and Coordination	Physical Abilities	0
Gross Body Equilibrium	The ability to keep or regain your body balance or stay upright when in an unstable position.	Flexibility, Balance and Coordination	Physical Abilities	0

Hearing Sensitivity	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	Auditory and Speech abilities	Sensory Abilities	0
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0.699
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	0
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	2.035
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or	Control movement abilities	Psychomotor Abilities	0

	1 . 1	T	1	
	lying down. It does not involve performing the activities while the whole body is in motion.			
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	1.63
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	0
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	
Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	-2.136 3.462
Originality				0
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-3.308

Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	0
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	1.917
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	2.446
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	1.034
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.	Control Movement Abilities	Psychomotor Abilities	-2.19
Selective Attention	The ability to concentrate on a task over a period of time without being distracted.	Attentiveness	Cognitive Abilities	0

Sound Localisation	The ability to tell the direction from which a sound originated.	Auditory and Speech Abilities	Sensory Abilities	0
Spatial Orientation	The ability to know your location in relation to the environment or to know where other objects are in relation to you.	Spatial Abilities	Cognitive Abilities	1.356
Speech Clarity	The ability to speak clearly so others can understand you.	Auditory and Speech Abilities	Sensory Abilities	0
Speech Recognition	The ability to identify and understand the speech of another person.	Auditory and Speech Abilities	Sensory Abilities	-1.366
Speed of Closure	The ability to quickly make sense of, combine, and organize information into meaningful patterns.	Perceptual Abilities	Cognitive Abilities	3.805
Speed of Limb Movement	The ability to quickly move the arms and legs.	Reaction Time and Speed Abilities	Psychomotor Abilities	-3.13
Stamina	The ability to exert yourself physically over long periods of time without getting winded or out of breath.	Endurance	Physical Abilities	1.371
Static Strength	The ability to exert maximum muscle force to lift, push, pull, or carry objects.	Physical Strength Abilities	Physical Abilities	0.601
Time Sharing	The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).	Attentiveness	Cognitive Abilities	0.001

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	-1.535
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	0
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-1.446
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	0
R Squared = 0.97	7		N= 174713	

Table M2 Croatia Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0

		T _		1
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			
	questions as appropriate,			
	and not interrupting at			0.255
	inappropriate times.			-0.255
Complex	Identifying complex	Complex	Cross	
Problem Solving	problems and reviewing	Problem	Functional	
	related information to	Solving	Skills	
	develop and evaluate			
	options and implement			
	solutions.			-1.483
Coordination	Adjusting actions in	Social Skills	Cross	1.403
Coordination		Social Skills		
	relation to others' actions.		Functional	
			Skills	-4.452
Critical	Using logic and reasoning	Process	Basic Skills	
Thinking	to identify the strengths			
	and weaknesses of			
	alternative solutions,			
	conclusions or approaches			
				0
Г	to problems.	TD 1 1 1	C	U
Equipment	Performing routine	Technical	Cross	
Maintenance	maintenance on equipment	Skills	Functional	
	and determining when and		Skills	
	what kind of maintenance			
	is needed.			-0.573
Equipment	Determining the kind of	Technical	Cross	
Selection	tools and equipment	Skills	Functional	
2010011011	needed to do a job.		Skills	0
Installation	Installing equipment,	Technical	Cross	0
Ilistaliation			Functional	
	machines, wiring, or	Skills		
	programs to meet		Skills	
	specifications.			0
Instructing	Teaching others how to do	Social Skills	Cross	
	something.		Functional	
			Skills	-3.273
Judgement and	Considering the relative	Systems	Cross	
Decision Decision	costs and benefits of	Skills	Functional	
Making	potential actions to choose	OKIII3	Skills	
iviakilig	_		SIIIN	1 107
т ,	the most appropriate one.	G .		1.187
Learning	Selecting and using	Systems	Cross	
Strategies	training/instructional	Skills	Functional	
	methods and procedures		Skills	
	appropriate for the			
	situation when learning or			
	teaching new things.			1.744
<u> </u>		1	<u> </u>	11/11

	<u> </u>	1	1	
Management of	Determining how money	Resource	Cross	
Financial	will be spent to get the	Management	functional	
Resources	work done, and accounting	Skills	Skills	
	for these expenditures.			
) / C		D	C	0
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			0.522
Managantas	certain work.	D	C	-0.522
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	2.000
M-41 4	best people for the job.	Contout	Basic Skills	2.008
Mathematics	Using mathematics to	Content	Basic Skills	
Monitoring	solve problems.	Decara	Basic Skills	0
Monitoring	Monitoring/Assessing	Process	Basic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make			
	improvements or take			5 152
Nacatiotics	corrective action.	Social Skills	Cross	-5.153
Negotiation	Bringing others together	Social Skills	functional	
	and trying to reconcile differences.		Skills	3.384
Onematica		Technical	Cross	3.384
Operation	Watching gauges, dials, or other indicators to make	Skills	Functional	
Monitoring		SKIIIS	Skills	
	sure a machine is working		SKIIIS	2.632
Operation and	properly. Controlling operations of	Technical	Cross	2.032
Control	equipment or systems.	Skills	Functional	
Connor	equipment of systems.	SKIIIS	Skills	-0.346
Operations	Analyzing needs and	Technical	Cross	-0.540
Analysis	product requirements to	Skills	Functional	
Allarysis	create a design.	SKIIIS	Skills	-0.457
Persuasion	Persuading others to	Social Skills	Cross	-U.TJ/
1 0134431011	change their minds or	Social Skills	functional	
	behavior.		Skills	-1.581
Programming	Writing computer	Technical	Cross	1.501
i rogramming	programs for various	Skills	functional	
	purposes.	DKIIIS	Skills	0.32
Quality Control	Conducting tests and	Technical	Cross	0.52
Analysis	inspections of products,	Skills	functional	
2 111d1 y 515	services, or processes to		Skills	
	evaluate quality or			
	performance.			-1.04
Reading	Understanding written	Content	Basic Skills	1.01
Comprehension	sentences and paragraphs			0
Comprehension	semences and paragraphs	1	1	<u> </u>

	in work related documents.			
Repairing	Repairing machines or systems using the needed tools.	Technical Skills	Cross Functional Skills	0
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
	1			1.088
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0.639
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	Social Skills	Cross Functional Skills	-1.748
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	0
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect	Systems Skills	Cross Functional Skills	-2.376
System Evaluation	outcomes. Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
Technology	system. Generating or adapting	Technical	Cross	3.346
Design	equipment and technology to serve user needs.	Skills	Functional Skills	-2.675
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	2.694
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	1.550
				1.579

R squared = 0.86		N=	174713	l
K squarcu – 0.00		11	1/4/13	ı

Table M3 Croatia People, Brains, Brawn Analysis

	Croatia – EU LFS
People	-0.022***
	(0.000)
Brains	0.113***
	(0.001)
Brawn	-0.149***
	(0.001)
People * Brains	-0.022***
	(0.000)
People*Brawn	0.113***
	(0.001)
Brains*Brawn	-0.149***
	(0.001)
N	174579
R Squared	29%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S16 Appendix. Individual country Ireland

Table N1 Ireland Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	
				-4.654
Auditory Attention	The ability to focus on a single source of sound in the presence of other	Auditory and speech abilities	Sensory Abilities	
	distracting sounds.			0

Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-1.974
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	1.741
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-4.082
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	3.508
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-0.79
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	0.334
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-2.022
Far Vision	The ability to see details at a distance.	Visual Abilities	Sensory Abilities	-1.285

Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
,	movements of the fingers	abilities	D 1	
	of one or both hands to		Psychomotor	
	grasp, manipulate, or		abilities	
	assemble very small			
	objects.			1.536
Flexibility of	The ability to identify or	Perecptual		
Closure	detect a known pattern (a	Abilities	a	
	figure, object, word, or		Cognitive	
	sound) that is hidden in		abilities	
	other distracting material.			-0.375
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
Tavas	about a topic (the number	reasoning	Cognitive	
	of ideas is important, not	abilities	abilities	
	their quality, correctness,	aomics	domines	
	or creativity).			-3.347
Glare	The ability to see objects	Visual		3.547
sensitivity	in the presence of glare or	abilities	Sensory	
Schistervity	bright lighting.	domines	abilities	-1.496
Gross Body Co-	The ability to coordinate	Flexibility,		1.150
ordination	the movement of your	Balance and		
ordination	arms, legs, and torso	Coordination	Physical	
	together when the whole	Coordination	Abilities	
	body is in motion.		Aomics	
	body is in motion.			1.37
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and	D1 ' 1	
	or stay upright when in an	Coordination	Physical	
	unstable position.		Abilities	
	1			-1.476
Hearing	The ability to detect or tell	Auditory and		
Sensitivity	the differences between	Speech	Congony	
	sounds that vary in pitch	abilities	Sensory	
	and loudness.		Abilities	
				0
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
	form general rules or	and Reasoning		
	conclusions (includes	Abilities	Cognitive	
	finding a relationship		Abilities	
	among seemingly			
	unrelated events).			
	<u>, </u>			0
Information	The ability to arrange	Idea		
Ordering	things or actions in a	Generation	Cognitive	
	certain order or pattern	and Reasoning	Abilities	
1	according to a specific	Abilities		0

	rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).			
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	0
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	1.707
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	1.907
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	1.381
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	0

Oral Expression	The ability to communicate information and ideas in speaking so	Verbal Abilities	Cognitive Abilities	
0::1:	others will understand.			4.061
Originality Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a	Perceptual Abilities	Cognitive Abilities	-1.99
	remembered object.			-6.289
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	3.52
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	3.247
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	1.426
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	2.62
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with	Control Movement Abilities	Psychomotor Abilities	-4.214

1 1 1 1	1		
1 -			
the hand, foot, or other			
body part.			
The ability to concentrate	Attentiveness		
•		Cognitive	
=		_	
•		Admines	2 272
			-2.272
	_	Sensory	
direction from which a	Speech		
sound originated.	Abilities	Admities	-2.465
	Spatial		
		Abilities	
•			0.750
ř			0.759
1	•		
clearly so others can	. •	•	
understand you.	Abilities	Abilities	
			0
The ability to identify and	Auditory and	~	
I	_		
	. •	Abilities	-1.973
			-1.773
	_	C '4'	
	Abilities		
<u> </u>		Abilities	
into meaningful patterns.			4.336
The ability to quickly	Reaction Time	Davahamatan	
move the arms and legs.	and Speed		
	-	Abilities	-2.001
The ability to exert	Endurance		
		Dhygiaal	
		Abilities	
out of breath.			
			1.651
	Physical		
maximum muscle force to	Strength	Dhygias1	
lift, push, pull, or carry	Abilities		
		Abilities	
,			0.446
The ability to shift back	Attentiveness		J
1	1 Ittelli v elless		
		G ::	
		_	
· ·		Abilities	
_			
other sources).			3.184
	The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a sound originated. The ability to know your location in relation to the environment or to know where other objects are in relation to you. The ability to speak clearly so others can understand you. The ability to identify and understand the speech of another person. The ability to quickly make sense of, combine, and organize information into meaningful patterns. The ability to quickly move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to lift, push, pull, or carry objects. The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or	response is started with the hand, foot, or other body part. The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a sound originated. The ability to know your location in relation to the environment or to know where other objects are in relation to you. The ability to speak clearly so others can understand you. The ability to identify and understand the speech of another person. The ability to quickly make sense of, combine, and organize information into meaningful patterns. The ability to quickly move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or	response is started with the hand, foot, or other body part. The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a sound originated. The ability to know your location in relation to the environment or to know where other objects are in relation to you. The ability to speak clearly so others can understand you. The ability to identify and understand the speech of another person. The ability to quickly make sense of, combine, and organize information into meaningful patterns. The ability to quickly move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	0
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	5.156
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	0
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	0
R Squared = 0.98			N = 123183	

Table N2 Ireland Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			4.753
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			
	questions as appropriate,			1.739

	and not interrupting at			
	inappropriate times.			
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement	Complex Problem Solving	Cross Functional Skills	
	solutions.			-4.003
Coordination	Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-5.012
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	Process	Basic Skills	-3.262
Equipment	Performing routine	Technical	Cross	-3.202
Maintenance	maintenance on equipment and determining when and what kind of maintenance	Skills	Functional Skills	
	is needed.			-0.898
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross Functional Skills	0
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Cross Functional Skills	0
Instructing	Teaching others how to do something.	Social Skills	Cross Functional Skills	-3.167
Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	Systems Skills	Cross Functional Skills	0
Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	Systems Skills	Cross Functional Skills	0
Management of Financial Resources	Determining how money will be spent to get the work done, and accounting for these expenditures.	Resource Management Skills	Cross functional Skills	
				0

Management of	Obtaining and seeing to	Resource	Cross	
Material Resources	the appropriate use of equipment, facilities, and	Management Skills	functional Skills	
	materials needed to do certain work.			0
Management of	Motivating, developing,	Resource	Cross	
Personell Resources	and directing people as	Management Skills	functional Skills	
Resources	they work, identifying the best people for the job.	SKIIIS	SKIIIS	2.191
Mathematics	Using mathematics to	Content	Basic Skills	2.171
	solve problems.			0
Monitoring	Monitoring/Assessing	Process	Basic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make improvements or take			
	corrective action.			-4.422
Negotiation	Bringing others together	Social Skills	Cross	
C	and trying to reconcile		functional	
	differences.		Skills	0
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	3.067
Operation and	properly. Controlling operations of	Technical	Cross	3.007
Control	equipment or systems.	Skills	Functional	
00111101	oquipmoni er eyerine.		Skills	-0.944
Operations	Analyzing needs and	Technical	Cross	
Analysis	product requirements to	Skills	Functional	
	create a design.		Skills	-0.572
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or behavior.		functional Skills	0
Programming	Writing computer	Technical	Cross	0
Trogramming	programs for various	Skills	functional	
	purposes.		Skills	0
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
	services, or processes to		Skills	
	evaluate quality or			1.042
Reading	performance. Understanding written	Content	Basic Skills	-1.942
Comprehension	sentences and paragraphs	Content	Dasic Skills	
Comprehension	in work related			
	documents.			
				0
Repairing	Repairing machines or	Technical	Cross	
	systems using the needed	Skills	Functional	
	tools.		Skills	0

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	1 221
Service	Actively looking for ways	Social Skills	Cross	1.221
Orientation	to help people.	Social Skills	Functional Skills	0.173
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and understanding why they		Functional Skills	
	react as they do.			0
Speaking	Talking to others to convey information	Content	Basic Skills	
	effectively.			1.111
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	-3.218
System	Identifying measures or	Systems	Cross	3.210
Evaluation	indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Skills	Functional Skills	
	system.			4.759
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-2.178
Time Management	Managing one's own time and the time of others.	Resource Management	Cross Functional	
		Skills	Skills	2.551
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0.956
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	0.730
	of the audience.			-0.405
R squared = 0.85			N=	122641

Table N3 Ireland People, Brains, Brawn Analysis

	Ireland – EU LFS
People	-0.019***
	(0.001)
Brains	-0.120***
	(0.001)
Brawn	-0.002*
	(0.001)
People * Brains	0.006***
	(0.000)
People*Brawn	-0.008***
	(0.000)
Brains*Brawn	0.010***
	(0.000)
N	122849
R Squared	15%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S17 Appendix. Individual country Iceland

Table O1 Iceland Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand	The ability to keep your	Fine		
Steadiness	hand and arm steady while moving your arm or while holding your arm and hand in one position.	manipulative abilities	Psychomotor abilities	
	1			-3.512
Auditory Attention	The ability to focus on a single source of sound in	Auditory and speech abilities	Sensory Abilities	0

	.1 0 .1			
	the presence of other distracting sounds.			
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	
		~ 1		-4.137
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	
				1.491
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	4 405
Donth	The ability to judge which	Visual		-4.495
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Abilities	Sensory Abilities	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	3.559
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-0.745
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-3.368

Far Vision The ability to see details Visual Sensory at a distance. Abilities Abilities Finger The ability to make Fine precisely coordinated manipulative movements of the fingers abilities	-2.679
Finger The ability to make Fine Dexterity precisely coordinated manipulative	-2.679
Dexterity precisely coordinated manipulative	
I HIOVEHICIUS OF THE HILBERS AUTHUES	
of one or both hands to Psychomoto	r
grasp, manipulate, or	
assemble very small	2 010
objects.	2.018
Flexibility of The ability to identify or Perecptual	
Closure detect a known pattern (a Abilities Cognitive	
sound) that is hidden in	
other distracting material.	-0.537
Fluency of The ability to come up Ideas	0.000
· · · · · · · · · · · · · · · · · · ·	
8	
about a topic (the number reasoning Cognitive	
of ideas is important, not abilities abilities	
their quality, correctness,	
or creativity).	-3.992
Glare The ability to see objects Visual	
sensitivity in the presence of glare or abilities Sensory	
bright lighting.	-2.928
Gross Body Co- The ability to coordinate Flexibility,	2.720
arms, legs, and torso Coordination Physical	
together when the whole Abilities	
body is in motion.	
	0
Gross Body The ability to keep or Flexibility,	
Equilibrium regain your body balance Balance and Physical	
or stay unright when in an Coordination Physical	
unstable position. Abilities	
ansaste position.	0
Hooring The chility to detect on tell Auditory and	0
Hearing The ability to detect or tell Auditory and	
Sensitivity the differences between Speech Sensory	
sounds that vary in pitch abilities Abilities	
and loudness.	
	-1.421
Inductive The ability to combine Idea	
Reasoning pieces of information to Generation	
form general rules or and Reasoning	
conclusions (includes Abilities Cognitive	
`	
among seemingly	
unrelated events).	
, and the second	1.139
Information The ability to arrange Idea Cognitive	1.139

	certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	and Reasoning Abilities		
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0.27
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	0.515
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0.698
Multi Limb Coordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	1.736
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	-1.318
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	1.642
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	-0.657
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	1.054

Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	3.677
Originality				0.774
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-3.154
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	0
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	1.901
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	3.282
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	0.848
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It	Control Movement Abilities	Psychomotor Abilities	-3.731

			I	1
	includes the speed with			
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of		Cognitive	
	time without being		Abilities	
	distracted.		7 tomties	0
Sound	The ability to tell the	Auditory and		O
Localisation	direction from which a		Sensory	
Localisation		Speech	Abilities	
G .: 1	sound originated.	Abilities		0
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities	Cognitive	
	environment or to know		Abilities	
	where other objects are in		Admitics	
	relation to you.			1.15
Speech Clarity	The ability to speak	Auditory and		
	clearly so others can	Speech	Sensory	
	understand you.	Abilities	Abilities	
	anderstand you.	Tronnes	Tromues	0
Speech	The chility to identify and	Auditomy and		U
Speech	The ability to identify and	Auditory and	Sensory	
Recognition	understand the speech of	Speech	Abilities	0.024
	another person.	Abilities		-0.834
Speed of	The ability to quickly	Perceptual		
Closure	make sense of, combine,	Abilities	Cognitive	
	and organize information		Abilities	
	into meaningful patterns.			5.029
Speed of Limb	The ability to quickly	Reaction Time	D1	
Movement	move the arms and legs.	and Speed	Psychomotor	
	5	Abilities	Abilities	0
Stamina	The ability to exert	Endurance		
- Continu	yourself physically over	Litadianoc		
			Physical	
	long periods of time		•	
	without getting winded or		Abilities	
	out of breath.			0.260
				0.269
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength	Physical	
	lift, push, pull, or carry	Abilities		
	objects.		Abilities	
				1.496
Time Sharing	The ability to shift back	Attentiveness		-
Time Similing	and forth between two or			
	more activities or sources		Cognitive	
			Cognitive	
	of information (such as		Abilities	
	speech, sounds, touch, or			
	other sources).			0

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of	Physical Strength Abilities	Dharainal	
	the body repeatedly or continuously over time without 'giving out' or		Physical Abilities	
	fatiguing.			0
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	4.736
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved	Spatial Abilities	Cognitive Abilities	
Wrist-Finger Speed	or rearranged. The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	-1.076
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	-0.781
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	0
R Squared = 0.98			N = 16286	

Table O2 Iceland Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			-0.856
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			0

	questions as appropriate,			
	and not interrupting at			
	inappropriate times.			
Complex	Identifying complex	Complex	Cross	
Problem Solving	problems and reviewing	Problem	Functional	
	related information to	Solving	Skills	
	develop and evaluate			
	options and implement			
	solutions.			-2.046
Coordination	Adjusting actions in	Social Skills	Cross	2.0.0
Coordination	relation to others' actions.	Social Skills	Functional	
	relation to others actions.		Skills	-3.562
C.:4:1	TT.: 1:	D	<u> </u>	-3.302
Critical	Using logic and reasoning	Process	Basic Skills	
Thinking	to identify the strengths			
	and weaknesses of			
	alternative solutions,			
	conclusions or approaches			
	to problems.			-2.53
Equipment	Performing routine	Technical	Cross	
Maintenance	maintenance on equipment	Skills	Functional	
	and determining when and		Skills	
	what kind of maintenance			
	is needed.			-1.105
Equipment	Determining the kind of	Technical	Cross	1.105
Selection	tools and equipment	Skills	Functional	
Selection	1 1	SKIIIS		1 126
T 11	needed to do a job.	TD 1 1 1	Skills	1.136
Installation	Installing equipment,	Technical	Cross	
	machines, wiring, or	Skills	Functional	
	programs to meet		Skills	
	specifications.			0
Instructing	Teaching others how to do	Social Skills	Cross	
	something.		Functional	
			Skills	-2.028
Judgement and	Considering the relative	Systems	Cross	
Decision	costs and benefits of	Skills	Functional	
Making	potential actions to choose		Skills	
	the most appropriate one.			3.687
Learning	Selecting and using	Systems	Cross	5.007
Strategies	training/instructional	Skills	Functional	
Sualegies		DVIII2	Skills	
	methods and procedures		SKIIIS	
	appropriate for the			
	situation when learning or			
	teaching new things.			1.37
Management of	Determining how money	Resource	Cross	
Financial	will be spent to get the	Management	functional	
Resources	work done, and accounting	Skills	Skills	
	for these expenditures.			
	for these emperiores.			

			1	
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			0
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
resources	best people for the job.	OKIIIS	SKIIIS	0
Mathematics	Using mathematics to	Content	Basic Skills	0
iviaticiliatics	solve problems.	Content	Dasic Skills	-0.713
Manitanina	<u> </u>	D	Dania Chilla	-0.713
Monitoring	Monitoring/Assessing	Process	Basic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-7.535
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.		Skills	0
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
Wiemtering	sure a machine is working	OKIIIS	Skills	
	properly.		SKIIIS	3.431
On anation and	† * * * * * * * * * * * * * * * * * * *	Technical	Cross	3.431
Operation and	Controlling operations of			
Control	equipment or systems.	Skills	Functional	0.420
		m 1 1 1	Skills	-0.438
Operations	Analyzing needs and	Technical	Cross	
Analysis	product requirements to	Skills	Functional	
	create a design.		Skills	0
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.		Skills	-0.827
Programming	Writing computer	Technical	Cross	
<i>G</i>	programs for various	Skills	functional	
	purposes.		Skills	-0.904
Quality Control	Conducting tests and	Technical	Cross	0.701
Analysis	inspections of products,	Skills	functional	
Allatysis	1 -	SKIIIS		
	services, or processes to		Skills	
	evaluate quality or			0.101
D 11	performance.	G .	D : 21 111	0.191
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			
	in work related			
	documents.			
				-0.707
Repairing	Repairing machines or	Technical	Cross	
	systems using the needed	Skills	Functional	
	tools.		Skills	-1.118
		I		

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	0
С .	A 4: 1 1 1: C	G : 1 G1 :11	C	0
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	1.152
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and understanding why they		Functional Skills	1 212
G 1:	react as they do.	C	D : C1 :11	-1.313
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	2.367
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	-1.486
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
	system.			5.622
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-2.925
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	2.661
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	
				2.767

Table O3 Iceland People, Brains, Brawn Analysis

	Iceland – EU LFS
People	0.017***
	(0.001)
Brains	-0.067***
	(0.002)
Brawn	0.014***
	(0.002)
People *	-0.006***
Brains	
	(0.001)
People*Brawn	-0.003***
	(0.001)
Brains*Brawn	-0.001
	(0.001)
N	16245
R Squared	15%

^{***, **, *} denotes significance at the 1%, 5% and 10% levels

respectively

S18 Appendix. Individual country Italy

Table P1 Italy Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	
	_			-1.455
Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	-0.805

Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	0
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-7.702
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	2.498
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	4.932
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-2.037
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	0.787
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-1.298
Far Vision	The ability to see details at a distance.	Visual Abilities	Sensory Abilities	-1.613

Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
Benterity	movements of the fingers	abilities		
	of one or both hands to	we man a	Psychomotor	
	grasp, manipulate, or		abilities	
	assemble very small			
	objects.			0.94
Flexibility of	The ability to identify or	Perecptual		0.51
Closure	detect a known pattern (a	Abilities		
Closuic	figure, object, word, or	7 tollities	Cognitive	
	sound) that is hidden in		abilities	
	other distracting material.			0
Fluency of	The ability to come up	Ideas		0
ideas	with a number of ideas	generation and		
lucas	about a topic (the number	reasoning	Cognitive	
	of ideas is important, not	abilities	abilities	
	their quality, correctness,	aumities	aumitics	
	or creativity).			-1.148
Glare	The ability to see objects	Visual		-1.140
sensitivity	in the presence of glare or	abilities	Sensory	
Sensitivity	1 2	abilities	abilities	-2.648
Cross Dady Co	bright lighting.	Flexibility,		-2.046
Gross Body Co- ordination	The ability to coordinate	Balance and		
ordination	the movement of your		Dlavaidal	
	arms, legs, and torso	Coordination	Physical Abilities	
	together when the whole		Abilities	
	body is in motion.			
Crass Dady	The chility to Iron or	Elovibility		0
Gross Body	The ability to keep or	Flexibility, Balance and		
Equilibrium	regain your body balance		Physical	
	or stay upright when in an	Coordination	Abilities	
	unstable position.			0
Hanina	The ability to detect an tell	A di4 a a d		0
Hearing	The ability to detect or tell	Auditory and		
Sensitivity	the differences between	Speech	Sensory	
	sounds that vary in pitch	abilities	Abilities	
	and loudness.			
In du ation	The chility to constitute	Idaa		0
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
	form general rules or	and Reasoning	G :::	
	conclusions (includes	Abilities	Cognitive	
	finding a relationship		Abilities	
	among seemingly			
	unrelated events).			
		7.1		0
Information	The ability to arrange	Idea		
Ordering	things or actions in a	Generation	Cognitive	
	certain order or pattern	and Reasoning	Abilities	
	according to a specific	Abilities		0

	1			
	rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).			
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	1.054
				1.354
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	
				2.864
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	1.211
Multi Limb Coordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	0.494
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	-1.212
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	2.115
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	
				-2.786
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	-2.669
				-2.003

Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	6.286
Originality	others will understand.			0.200
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-3.147
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	-1.523
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	2.313
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	3.301
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	1.054
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with	Control Movement Abilities	Psychomotor Abilities	-2.881

	restricts the annual of			
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of		Cognitive	
	time without being		Abilities	
	distracted.		Tionnes	0
C 1		A 1'4 1		U
Sound	The ability to tell the	Auditory and	Sensory	
Localisation	direction from which a	Speech	Abilities	
	sound originated.	Abilities	110111110	0
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities	a	
	environment or to know		Cognitive	
	where other objects are in		Abilities	
	2			1.621
C	relation to you.	A 1'4 - 1		1.021
Speech Clarity	The ability to speak	Auditory and		
	clearly so others can	Speech	Sensory	
	understand you.	Abilities	Abilities	
				0
Speech	The ability to identify and	Auditory and	C	
Recognition	understand the speech of	Speech	Sensory	
	another person.	Abilities	Abilities	-1.986
Speed of	The ability to quickly	Perceptual		11,500
Closure	make sense of, combine,	Abilities	Cognitive	
Closuic		Aumitics		
	and organize information		Abilities	4.202
	into meaningful patterns.			4.392
Speed of Limb	The ability to quickly	Reaction Time	Psychomotor	
Movement	move the arms and legs.	and Speed	Abilities	
		Abilities	Admities	-2.839
Stamina	The ability to exert	Endurance		
	yourself physically over			
	long periods of time		Physical	
	without getting winded or		Abilities	
	out of breath.		Aumitics	
	out of breath.			2.050
G: G	701 1 111.	D1 ' 1		2.058
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength	Physical	
	lift, push, pull, or carry	Abilities	Abilities	
	objects.		Aumues	
				0.329
Time Sharing	The ability to shift back	Attentiveness		
8	and forth between two or			
	more activities or sources		Cognitive	
			Abilities	
	of information (such as		Aumues	
	speech, sounds, touch, or			1.001
	other sources).			1.801

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time	Physical Strength Abilities	Physical Abilities	
	without 'giving out' or fatiguing.			-1.148
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	0
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-0.979
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0.707
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	-1.431
R Squared = 0.96)		N = 337066	

Table P2 Italy Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			1.666

A T	C: : C 11:		D : 01:11	
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			
	questions as appropriate,			
	and not interrupting at			
				0.776
G 1	inappropriate times.	G 1	C	-0.776
Complex	Identifying complex	Complex	Cross	
Problem Solving	problems and reviewing	Problem	Functional	
	related information to	Solving	Skills	
	develop and evaluate			
	options and implement			
	solutions.			0
Coordination	Adjusting actions in	Social Skills	Cross	
Coordination	relation to others' actions.	Social Skills		
	relation to others' actions.		Functional	7.674
			Skills	-7.674
Critical	Using logic and reasoning	Process	Basic Skills	
Thinking	to identify the strengths			
	and weaknesses of			
	alternative solutions,			
	conclusions or approaches			
	to problems.			-3.374
Г ' '	*	T 1 1	0	-3.3/4
Equipment	Performing routine	Technical	Cross	
Maintenance	maintenance on equipment	Skills	Functional	
	and determining when and		Skills	
	what kind of maintenance			
	is needed.			0
Equipment	Determining the kind of	Technical	Cross	
Selection	tools and equipment	Skills	Functional	
	needed to do a job.		Skills	1.503
Installation	Installing equipment,	Technical		1.505
Installation			Cross	
	machines, wiring, or	Skills	Functional	
	programs to meet		Skills	
	specifications.			0.844
Instructing	Teaching others how to do	Social Skills	Cross	
	something.		Functional	
			Skills	-2.769
Judgement and	Considering the relative	Systems	Cross	
Decision	costs and benefits of	Skills	Functional	
		SKIIIS		
Making	potential actions to choose		Skills	1.005
	the most appropriate one.			1.905
Learning	Selecting and using	Systems	Cross	
Strategies	training/instructional	Skills	Functional	
_	methods and procedures		Skills	
	appropriate for the			
	situation when learning or			
	_			0
	teaching new things.			l U

Management of Financial Resources	Determining how money will be spent to get the work done, and accounting	Resource Management Skills	Cross functional Skills	
	for these expenditures.			0
Management of Material Resources	Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do	Resource Management Skills	Cross functional Skills	
	certain work.			-1.098
Management of Personell Resources	Motivating, developing, and directing people as they work, identifying the	Resource Management Skills	Cross functional Skills	1.505
Mathematics	Using mathematics to solve problems.	Content	Basic Skills	0
Monitoring	Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take	Process	Basic Skills	
Negotiation	Bringing others together and trying to reconcile differences.	Social Skills	Cross functional Skills	-5.162 1.831
Operation Monitoring	Watching gauges, dials, or other indicators to make sure a machine is working properly.	Technical Skills	Cross Functional Skills	2.984
Operation and Control	Controlling operations of equipment or systems.	Technical Skills	Cross Functional Skills	-0.647
Operations Analysis	Analyzing needs and product requirements to create a design.	Technical Skills	Cross Functional Skills	-1.165
Persuasion	Persuading others to change their minds or behavior.	Social Skills	Cross functional Skills	-0.13
Programming	Writing computer programs for various purposes.	Technical Skills	Cross functional Skills	0
Quality Control Analysis	Conducting tests and inspections of products, services, or processes to evaluate quality or	Technical Skills	Cross functional Skills	
Reading	performance. Understanding written	Content	Basic Skills	-0.729
Comprehension	sentences and paragraphs			0

	in work related documents.			
	documents.			
Repairing	Repairing machines or systems using the needed tools.	Technical Skills	Cross Functional Skills	-2.24
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	2.27
		- 1 1 21 111		0.436
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	-0.988
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	Social Skills	Cross Functional Skills	0
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	2.647
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect	Systems Skills	Cross Functional Skills	
	outcomes.			-2.856
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
	system.			5.888
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-3.437
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	4.727
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	0

R squared = 0.80		N=	337066	
1 Squarea 0.00		T.4	337000	1

Table P3 Italy People, Brains, Brawn Analysis

	Italy – EU
	LFS
People	0.027***
	(0.000)
Brains	-0.054***
	(0.000)
Brawn	0.066***
	(0.001)
People *	-0.004***
Brains	
	(0.000)
People*Brawn	0.005***
	(0.000)
Brains*Brawn	-0.015***
	(0.000)
N	336971
R Squared	11%

^{***, **, *} denotes significance at the 1%, 5% and 10% levels

respectively

S19 Appendix. Individual country Luxemburg

Table Q1 Luxemburg Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	-3.527
Auditory Attention	The ability to focus on a single source of sound in	Auditory and speech abilities	Sensory Abilities	0

	T 4	T	1	
	the presence of other distracting sounds.			
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	2.45
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	1.959
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-4.73
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	5.074
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-1.391
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	0.89
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-2.651

г и	TP1 1 1114 4 1 4 11	T7' 1	C	
Far Vision	The ability to see details	Visual	Sensory	2 61 4
	at a distance.	Abilities	Abilities	-2.614
Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
,	movements of the fingers	abilities		
	of one or both hands to		Psychomotor	
			abilities	
	grasp, manipulate, or			
	assemble very small			
	objects.			1.965
Flexibility of	The ability to identify or	Perecptual		
Closure	detect a known pattern (a	Abilities		
0100010	figure, object, word, or	110111110	Cognitive	
			abilities	
	sound) that is hidden in			
	other distracting material.			0
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
	about a topic (the number	reasoning	Cognitive	
	of ideas is important, not	abilities	abilities	
	1 1	admities	aomitics	
	their quality, correctness,			2.720
	or creativity).			-2.728
Glare	The ability to see objects	Visual	Sensory	
sensitivity	in the presence of glare or	abilities		
·	bright lighting.		abilities	-3.102
Gross Body Co-	The ability to coordinate	Flexibility,		01102
ordination	= -	Balance and		
ordination	the movement of your		701 ' 1	
	arms, legs, and torso	Coordination	Physical	
	together when the whole		Abilities	
	body is in motion.			
	-			0
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and		
Equilibrium			Physical	
	or stay upright when in an	Coordination	Abilities	
	unstable position.			
				-0.016
Hearing	The ability to detect or tell	Auditory and		
Sensitivity	the differences between	Speech		
	sounds that vary in pitch	abilities	Sensory	
	and loudness.		Abilities	
	and loudiess.			
T 1	771 1 111	T 1		0
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
	form general rules or	and Reasoning		
	conclusions (includes	Abilities	Cognitive	
	finding a relationship		Abilities	
			1101111103	
	among seemingly			
	unrelated events).			
				0
Information	The ability to arrange	Idea	Cognitive	
Ordering	things or actions in a	Generation	Abilities	0
Sideling	in a control in a	Selleration	1101110100	

	certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	and Reasoning Abilities		
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	0
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0.373
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0.053
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	1.854

Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	3.828 -0.48
Originality Perceptual Speed	The ability to quickly and accurately compare	Perceptual Abilities		-0.40
Speed	similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Admites	Cognitive Abilities	-4.04
Perceptual	The ability to see objects	Visual		
Vision	or movement of objects to one's side when the eyes are looking ahead.	Abilities	Sensory Abilities	0.948
Problem	The ability to tell when	Idea		
Sensitivity	something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	generation and Reasoning Abilities	Cognitive Abilities	
	1			1.572
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	3.985
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	1.288
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights,	Control Movement Abilities	Psychomotor Abilities	
	sounds, pictures). It			-3.859

	includes the speed with			
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of		Cognitive	
110011011	time without being		Abilities	
	distracted.		Tromities	-0.58
Carrad		A		-0.36
Sound	The ability to tell the	Auditory and	Sensory	
Localisation	direction from which a	Speech	Abilities	
	sound originated.	Abilities		0
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities	Cognitive	
	environment or to know		_	
	where other objects are in		Abilities	
	relation to you.			1.291
Speech Clarity	The ability to speak	Auditory and		2 -
Specen Clarity	clearly so others can	Speech	Sensory	
	I =	Abilities	Abilities	
	understand you.	Admittes	Admiles	0
G 1	TD1 1:11:	A 11. 1		0
Speech	The ability to identify and	Auditory and	Sensory	
Recognition	understand the speech of	Speech	Abilities	
	another person.	Abilities	Tronnes	0
Speed of	The ability to quickly	Perceptual		
Closure	make sense of, combine,	Abilities	Cognitive	
	and organize information		Abilities	
	into meaningful patterns.			4.811
Speed of Limb	The ability to quickly	Reaction Time		
Movement	move the arms and legs.	and Speed	Psychomotor	
Wiovellicit	move the arms and legs.	Abilities	Abilities	0
Ctamina	The objility to assess			U
Stamina	The ability to exert	Endurance		
	yourself physically over			
	long periods of time		Physical	
	without getting winded or		Abilities	
	out of breath.			
				0.473
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength	71	
	lift, push, pull, or carry	Abilities	Physical	
	objects.	1101111100	Abilities	
				1.374
Time of Classics	The chility to ship head-	Attantizzasas		1.3/4
Time Sharing	The ability to shift back	Attentiveness		
	and forth between two or			
	more activities or sources		Cognitive	
	of information (such as		Abilities	
	speech, sounds, touch, or			
1	other sources).			0

Trunk Strength	The ability to use your	Physical		
8	abdominal and lower back	Strength		
	muscles to support part of	Abilities		
	the body repeatedly or		Physical	
	continuously over time		Abilities	
	without 'giving out' or			
	fatiguing.			0
Visual Color	The ability to match or	Visual		-
Discrimination	detect differences between	Abilities		
	colors, including shades		Sensory	
	of color and brightness.		Abilities	
	5			4.394
Visualisation	The ability to imagine	Spatial		
	how something will look	Abilities	Cognitive	
	after it is moved around or		Abilities	
	when its parts are moved		Aumues	
	or rearranged.			-0.671
Wrist-Finger	The ability to make fast,	Reaction Time		
Speed	simple, repeated	and Speed	Psychomotor	
	movements of the fingers,	Abilities	Abilities	
	hands, and wrists.			-1.536
Written	The ability to read and	Verbal		
Comprehension	understand information	Abilities	Cognitive	
	and ideas presented in		Abilities	
	writing.			-0.359
Written	The ability to	Verbal		
Expression	communicate information	Abilities	Cognitive	
	and ideas in writing so		Abilities	
	others will understand.			0
R Squared = 0.97	•		N=17383	

Table Q2 Luxemburg Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0
Active Listening	Giving full attention to	Content	Basic Skills	
_	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			-1.051

	questions as appropriate, and not interrupting at inappropriate times.			
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement	Complex Problem Solving	Cross Functional Skills	5.266
Coordination	Solutions. Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-5.366 -3.578
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches	Process	Basic Skills	
Equipment Maintenance	to problems. Performing routine maintenance on equipment and determining when and what kind of maintenance	Technical Skills	Cross Functional Skills	-3.552
	is needed.			-0.889
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross Functional Skills	0.33
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Cross Functional Skills	0
Instructing	Teaching others how to do something.	Social Skills	Cross Functional Skills	-1.957
Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	Systems Skills	Cross Functional Skills	4.94
Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	Systems Skills	Cross Functional Skills	1.248
Management of Financial Resources	Determining how money will be spent to get the work done, and accounting for these expenditures.	Resource Management Skills	Cross functional Skills	1.210
	•			0.449

			1	1
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			0
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
Treso di ves	best people for the job.			0
Mathematics	Using mathematics to	Content	Basic Skills	0
iviationaties	solve problems.	Content	Dasic Skills	-1.016
Manitanina	1	D	Basic Skills	-1.010
Monitoring	Monitoring/Assessing	Process	Basic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			-5.584
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.		Skills	0.907
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
8	sure a machine is working		Skills	
	properly.			3.127
Operation and	Controlling operations of	Technical	Cross	3.127
Control	equipment or systems.	Skills	Functional	
Control	equipment of systems.	SKIIIS	Skills	0
Operations	A nolyging needs and	Technical	Cross	0
-	Analyzing needs and	Skills	Functional	
Analysis	product requirements to	SKIIIS		
D :	create a design.	G : 1 G1 :11	Skills	0
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.		Skills	0
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	
	purposes.		Skills	-0.442
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
-	services, or processes to		Skills	
	evaluate quality or			
	performance.			-1.321
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			
Comprehension	in work related			
	documents.			
	documents.			0.992
Donoining	Danairing machines on	Technical	Cross	0.734
Repairing	Repairing machines or		Functional	
	systems using the needed	Skills		0.575
	tools.		Skills	-0.575

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	0.838
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	-0.655
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	Social Skills	Cross Functional Skills	-1.296
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	1.859
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	-1.634
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.	Systems Skills	Cross Functional Skills	4.382
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-2.029
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	3.264
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0.448
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	1.578
R squared = 0.82			N=	17383

Table Q3 Luxemburg People, Brains, Brawn Analysis

	Luxemburg -
	EU LFS
People	0.012***
	(0.001)
Brains	-0.051***
	(0.001)
Brawn	0.029***
	(0.001)
People *	0.000***
Brains	
	(0.000)
People*Brawn	0.000***
	(0.000)
Brains*Brawn	-0.000
	(0.000)
N	18867
R Squared	8%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S20 Appendix. Individual country Latvia

Table R 1 Latvia Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady	Fine manipulative		
Steadiness	while moving your arm or while holding your arm and hand in one position.	abilities	Psychomotor abilities	
	1			-2.086

Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	Auditory and speech abilities	Sensory Abilities	0.581
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-2.172
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	1.305
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0.308
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	2.384
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	0
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	0
Extent Flexibility	The ability to bend, stretch, twist, or reach	Flexibility, balance and coordination	Physical Abilities	-1.981

	with your body, arms,			
Far Vision	and/or legs. The ability to see details at a distance.	Visual Abilities	Sensory Abilities	-3.949
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small	Fine manipulative abilities	Psychomotor abilities	
	objects.			3.547
Flexibility of Closure	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	Perecptual Abilities	Cognitive abilities	0
Fluency of ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness,	Ideas generation and reasoning abilities	Cognitive abilities	
Glare sensitivity	or creativity). The ability to see objects in the presence of glare or	Visual abilities	Sensory abilities	-4.547
Gross Body Co- ordination	bright lighting. The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.	Flexibility, Balance and Coordination	Physical Abilities	-3.105
Gross Body Equilibrium	The ability to keep or regain your body balance or stay upright when in an unstable position.	Flexibility, Balance and Coordination	Physical Abilities	-1.106
Hearing Sensitivity	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	Auditory and Speech abilities	Sensory Abilities	-1.17
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	Idea Generation and Reasoning Abilities	Cognitive Abilities	-0.957

Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	-2.368
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	0
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	1.119
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0.812
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	1.643
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	-1.379
Oral Comprehension	The ability to listen to and understand information and ideas presented	Verbal Abilities	Cognitive Abilities	0

	through spoken words and sentences.			
Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	2.443
Originality				0
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-4.162
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	3.876
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	1.221
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	3.423
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Response Orientation	The ability to choose quickly between two or more movements in response to two or more	Control Movement Abilities	Psychomotor Abilities	-3.749

	T	T	ı	
	different signals (lights, sounds, pictures). It includes the speed with			
	which the correct			
	response is started with			
	the hand, foot, or other			
Selective	body part.	Attentiveness		
Attention	The ability to concentrate	Attentiveness	Comitivo	
Attention	on a task over a period of		Cognitive Abilities	
	time without being distracted.		Abilities	0.774
Sound		Auditory and		0.774
Localisation	The ability to tell the direction from which a	Speech	Sensory	
Localisation	sound originated.	Abilities	Abilities	-2.89
Spatial	The ability to know your	Spatial		-2.09
Orientation	location in relation to the	Abilities		
Offentation	environment or to know	Admities	Cognitive	
	where other objects are in		Abilities	
	relation to you.			1.797
Speech Clarity	The ability to speak	Auditory and		1.///
Speech Clarity	clearly so others can	Speech	Sensory	
	understand you.	Abilities	Abilities	
	dilderstand you.	Admities	Admities	0.837
Speech	The ability to identify and	Auditory and		0.037
Recognition	understand the speech of	Speech	Sensory	
Recognition	another person.	Abilities	Abilities	0
Speed of	The ability to quickly	Perceptual		0
Closure	make sense of, combine,	Abilities	Cognitive	
Closuic	and organize information	Admitics	Abilities	
	into meaningful patterns.		Tromities	5.165
Speed of Limb	The ability to quickly	Reaction Time		3.103
Movement	move the arms and legs.	and Speed	Psychomotor	
Wiovement	move the arms and legs.	Abilities	Abilities	-0.195
Stamina	The ability to exert	Endurance		0.173
Stallina	yourself physically over	Lindulation		
	long periods of time		Physical	
	without getting winded or		Abilities	
	out of breath.		1101111103	
	out of oroun.			1.254
Static Strength	The ability to exert	Physical		1.20
S	maximum muscle force to	Strength		
	lift, push, pull, or carry	Abilities	Physical	
	objects.		Abilities	
	- 5,5			1.329
Time Sharing	The ability to shift back	Attentiveness		
6	and forth between two or		Cognitive	
	more activities or sources		Abilities	
	of information (such as			0
L		1		

	speech, sounds, touch, or other sources).			
Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	0
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	5.061
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-1.039
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0.535
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	0
R Squared = 0.98			N=32177	

Table R2 Latvia Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			2.028
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			-1.141

		1		
	understand the points			
	being made, asking			
	questions as appropriate,			
	and not interrupting at			
	inappropriate times.			
Complex	Identifying complex	Complex	Cross	
Problem Solving	problems and reviewing	Problem	Functional	
	related information to	Solving	Skills	
	develop and evaluate			
	options and implement			
	solutions.			-0.491
Coordination	Adjusting actions in	Social Skills	Cross	
	relation to others' actions.		Functional	
			Skills	-3.967
Critical	Using logic and reasoning	Process	Basic Skills	
Thinking	to identify the strengths			
	and weaknesses of			
	alternative solutions,			
	conclusions or approaches			
	to problems.			-2.057
Equipment	Performing routine	Technical	Cross	
Maintenance	maintenance on equipment	Skills	Functional	
	and determining when and		Skills	
	what kind of maintenance			0.222
	is needed.			-0.332
Equipment	Determining the kind of	Technical	Cross	
Selection	tools and equipment	Skills	Functional	1.502
T 11	needed to do a job.	TD 1 1 1	Skills	1.593
Installation	Installing equipment,	Technical	Cross	
	machines, wiring, or	Skills	Functional	
	programs to meet		Skills	0.112
T 4 4	specifications.	G : 1 G1 '11	C	0.113
Instructing	Teaching others how to do	Social Skills	Cross	
	something.		Functional	2.007
T., 1	Canadani d. 1 d	Ct	Skills	-2.997
Judgement and	Considering the relative	Systems	Cross	
Decision	costs and benefits of	Skills	Functional	
Making	potential actions to choose		Skills	2 692
Laguine	the most appropriate one.	Caratana	Casas	2.683
Learning	Selecting and using	Systems	Cross	
Strategies	training/instructional	Skills	Functional	
	methods and procedures		Skills	
	appropriate for the			
	situation when learning or			
Monogoment of	teaching new things.	Dagayear	Cross	0
Management of	Determining how money	Resource	Cross	
Financial Resources	will be spent to get the	Management Skills	functional Skills	
Resources	work done, and accounting	SKIIIS	SKIIIS	0
	for these expenditures.		<u> </u>	U

Management of Material Resources	Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do	Resource Management Skills	Cross functional Skills	0.226
Management of Personell Resources	certain work. Motivating, developing, and directing people as they work, identifying the	Resource Management Skills	Cross functional Skills	-0.336
Mathematics	best people for the job. Using mathematics to solve problems.	Content	Basic Skills	0
Monitoring	Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.	Process	Basic Skills	-3.267
Negotiation	Bringing others together and trying to reconcile differences.	Social Skills	Cross functional Skills	3.268
Operation Monitoring	Watching gauges, dials, or other indicators to make sure a machine is working properly.	Technical Skills	Cross Functional Skills	2.202
Operation and Control	Controlling operations of equipment or systems.	Technical Skills	Cross Functional Skills	0
Operations Analysis	Analyzing needs and product requirements to create a design.	Technical Skills	Cross Functional Skills	-1.318
Persuasion	Persuading others to change their minds or behavior.	Social Skills	Cross functional Skills	-1.673
Programming	Writing computer programs for various purposes.	Technical Skills	Cross functional Skills	0.642
Quality Control Analysis	Conducting tests and inspections of products, services, or processes to evaluate quality or performance.	Technical Skills	Cross functional Skills	-1.817
Reading Comprehension	Understanding written sentences and paragraphs in work related documents.	Content	Basic Skills	-0.755

Repairing	Repairing machines or	Technical Skills	Cross Functional	
	systems using the needed tools.	SKIIIS	Skills	
				-1.102
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
	proordings			0.767
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional	
	11 1		Skills	0
Social Perceptiveness	Being aware of others' reactions and understanding why they	Social Skills	Cross Functional Skills	
	react as they do.		Skins	0.349
Speaking	Talking to others to convey information	Content	Basic Skills	
	effectively.			0
System Analysis	Determining how a system should work and how changes in conditions, operations, and the	Systems Skills	Cross Functional Skills	
	environment will affect outcomes.			0
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance,	Systems Skills	Cross Functional Skills	
	relative to the goals of the system.			2.696
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-2.982
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	3.779
Troubleshooting	Determining causes of operating errors and deciding what to do about	Technical Skills	Cross Functional Skills	
Whitin ~	it.	Contont	Dagio Claitta	0
Writing	Communicating effectively in writing as appropriate for the needs	Content	Basic Skills	
	of the audience.			
D agree of 1 0.05			NI	22177
R squared = 0.85			N=	32177

Table R3 Latvia People, Brains, Brawn Analysis

	Latvia – EU LFS
People	0.056***
_	(0.001)
Brains	-0.185***
	(0.002)
Brawn	0.041***
	(0.002)
People *	-0.002***
Brains	
	(0.001)
People*Brawn	-0.010***
	(0.001)
Brains*Brawn	-0.072***
	(0.001)
N	32147
R Squared	36%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S21 Appendix. Individual country Netherlands

Table S1 Netherlands Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand	The ability to keep your	Fine		
Steadiness	hand and arm steady	manipulative		
	while moving your arm or	abilities		
	while holding your arm			
	and hand in one position.			
	_		-3.538	-3.538
Auditory	The ability to focus on a	Auditory and		
Attention	single source of sound in	speech		
		abilities	0	0

	the presence of other distracting sounds.			
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	-2.003	-2.003
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities		
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	-6.952	-6.952
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	0.332	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	3.815	3.815
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	0	0
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	0	0
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	-3.051	-3.051

T 77''	771 1 111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	T7' 1	T	1
Far Vision	The ability to see details	Visual	0.501	2.721
	at a distance.	Abilities	-2.721	-2.721
Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
	movements of the fingers	abilities		
	of one or both hands to			
	grasp, manipulate, or			
	assemble very small			
	objects.		2.348	2.348
Flexibility of	The ability to identify or	Perecptual	2.310	2.3 10
Closure	detect a known pattern (a	Abilities		
Closure	• `	Admities		
	figure, object, word, or			
	sound) that is hidden in			0.004
	other distracting material.		0.394	0.394
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
	about a topic (the number	reasoning		
	of ideas is important, not	abilities		
	their quality, correctness,			
	or creativity).		-2.165	-2.165
Glare	The ability to see objects	Visual	2.100	2.100
sensitivity	in the presence of glare or	abilities		
Schshivity	_	aumities	2 264	2 264
C D 1 C	bright lighting.	T1 '1 '1',	-2.364	-2.364
Gross Body Co-	The ability to coordinate	Flexibility,		
ordination	the movement of your	Balance and		
	arms, legs, and torso	Coordination		
	together when the whole			
	body is in motion.			
			0	0
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and		
1	or stay upright when in an	Coordination		
	unstable position.			
	misuere pesition.		0	0
Hearing	The ability to detect or tell	Auditory and		Š
Sensitivity	the differences between	Speech		
Denomin		abilities		
	sounds that vary in pitch	abilities		
	and loudness.		1.262	1 262
T 1	771 1 111	T 1	-1.262	-1.262
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
	form general rules or	and Reasoning		
	conclusions (includes	Abilities		
	finding a relationship			
	among seemingly			
	unrelated events).			
			0.799	0.799
Information	The ability to arrange	Idea		J., J.
Ordering	things or actions in a	Generation	-2.949	-2.949
Ordering	mings of actions in a	Jeneranon	'ム・ノオノ	-ム・ノマノ

	certain order or pattern	and Reasoning		
	according to a specific	Abilities		
	rule or set of rules (e.g.,			
	patterns of numbers,			
	letters, words, pictures,			
	mathematical operations).			
Manual	The ability to quickly	Fine		
Dexterity	move your hand, your	Manipulative		
	hand together with your	Abilities		
	arm, or your two hands to			
	grasp, manipulate, or assemble objects.			
	assemble objects.		-0.847	-0.847
Math	The ability to choose the	Quantitative		
Reasoning	right mathematical	Abilities		
	methods or formulas to			
	solve a problem.		0.212	0.212
Memorization	Abilities related to the	Quantitative	0.312	0.312
Wichionzation	recall of available	Abilities		
	information	710111105	-0.613	-0.613
Multi Limb Co-	The ability to coordinate	Control		
ordination	two or more limbs (for	movement		
	example, two arms, two	abilities		
	legs, or one leg and one			
	arm) while sitting, standing, or lying down. It			
	does not involve			
	performing the activities			
	while the whole body is in			
	motion.			
			1.775	1.775
Near Vision	The ability to see details	Near Vision		
	at close range (within a few feet of the observer)		0	0
Night Vision	The ability to see under	Near Vision	0	0
TUBIK VISIOII	low light conditions	1 (Car Vision	0	0
Number	The ability to add,	Quantitative		
Facility	subtract, multiply, or	Abilities		
	divide quickly and			
	correctly.			
			0	0
Oral	The ability to listen to and	Verbal	-	
Comprehension	understand information	Abilities		
	and ideas presented			
	through spoken words and			
	sentences.		0.94	0.94

Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	5.475	5.475
Originality			-1.725	-1.725
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a	Perceptual Abilities		
D	remembered object.	*** 4	-5.52	-5.52
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	1.025	1.025
Problem	The ability to tell when	Idea		
Sensitivity	something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	generation and Reasoning Abilities		
			1.452	1.452
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	2.359	2.359
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	3.241	3.241
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It	Control Movement Abilities	-4.197	-4.197

	1		1
-			
response is started with			
the hand, foot, or other			
body part.			
* 1	Attentiveness		
=			
<u> </u>			
_		0	0
	Auditory and	U	0
_	•		
	-	0.625	0.625
		-0.625	-0.625
	Abilities		
where other objects are in			
relation to you.		0.417	0.417
The ability to speak	Auditory and		
clearly so others can	Speech		
	Abilities		
j		0	0
The ability to identify and	Auditory and	-	-
	_		
_		_1 336	-1.336
		-1.550	-1.550
	-		
	Admities		
		C 411	C 411
		6.411	6.411
move the arms and legs.			
	Abilities	-1.055	-1.055
The ability to exert	Endurance		
yourself physically over			
long periods of time			
out of breath.			
		0	0
The ability to exert	Physical Physical	<u> </u>	j
	Admities		
objects.		0.602	0.602
m 1 11: . 1:0.1 1	A	0.692	0.692
T	Attentiveness		
more activities or sources			
of information (such as			
speech, sounds, touch, or			
other sources).		3.631	3.631
	the hand, foot, or other body part. The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a sound originated. The ability to know your location in relation to the environment or to know where other objects are in relation to you. The ability to speak clearly so others can understand you. The ability to identify and understand the speech of another person. The ability to quickly make sense of, combine, and organize information into meaningful patterns. The ability to quickly move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to lift, push, pull, or carry objects. The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or	which the correct response is started with the hand, foot, or other body part. The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a sound originated. The ability to know your location in relation to the environment or to know where other objects are in relation to you. The ability to speak clearly so others can understand you. The ability to identify and understand the speech of another person. The ability to quickly make sense of, combine, and organize information into meaningful patterns. The ability to quickly move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or	which the correct response is started with the hand, foot, or other body part. The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a sound originated. The ability to know your location in relation to the environment or to know where other objects are in relation to you. The ability to speak clearly so others can understand you. The ability to identify and understand the speech of another person. The ability to quickly make sense of, combine, and organize information into meaningful patterns. The ability to quickly move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or

Trunk Strength	The ability to use your	Physical		
	abdominal and lower back	Strength		
	muscles to support part of	Abilities		
	the body repeatedly or			
	continuously over time			
	without 'giving out' or			
	fatiguing.		0.813	0.813
Visual Color	The ability to match or	Visual		
Discrimination	detect differences between	Abilities		
	colors, including shades			
	of color and brightness.			
			4.987	4.987
Visualisation	The ability to imagine	Spatial		
	how something will look	Abilities		
	after it is moved around or			
	when its parts are moved			
	or rearranged.		0	0
Wrist-Finger	The ability to make fast,	Reaction Time		
Speed	simple, repeated	and Speed		
	movements of the fingers,	Abilities		
	hands, and wrists.		-1.383	-1.383
Written	The ability to read and	Verbal		
Comprehension	understand information	Abilities		
	and ideas presented in			
	writing.		1.368	1.368
Written	The ability to	Verbal		
Expression	communicate information	Abilities		
	and ideas in writing so			
	others will understand.		-1.285	-1.285
R Squared = 0.98			N=74745	

Table S2 Netherlands Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0

A .: T : . :	G: : C 11:		D : 01:11	
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			
	questions as appropriate,			
	and not interrupting at			
				1.512
G 1	inappropriate times.	G 1	0	-1.513
Complex	Identifying complex	Complex	Cross	
Problem Solving	problems and reviewing	Problem	Functional	
	related information to	Solving	Skills	
	develop and evaluate			
	options and implement			
	solutions.			-2.967
Coordination	Adjusting actions in	Social Skills	Cross	2.507
Coordination	relation to others' actions.	Social Skills	Functional	
	relation to others actions.			6.460
		_	Skills	-6.469
Critical	Using logic and reasoning	Process	Basic Skills	
Thinking	to identify the strengths			
	and weaknesses of			
	alternative solutions,			
	conclusions or approaches			
	to problems.			0
Eminorant	*	Technical	Cross	0
Equipment	Performing routine			
Maintenance	maintenance on equipment	Skills	Functional	
	and determining when and		Skills	
	what kind of maintenance			
	is needed.			-2.464
Equipment	Determining the kind of	Technical	Cross	
Selection	tools and equipment	Skills	Functional	
	needed to do a job.		Skills	1.287
Installation	Installing equipment,	Technical	Cross	1.207
1113(411411011		Skills	Functional	
	machines, wiring, or	SKIIIS		
	programs to meet		Skills	
	specifications.			0
Instructing	Teaching others how to do	Social Skills	Cross	
	something.		Functional	
			Skills	-3.833
Judgement and	Considering the relative	Systems	Cross	
Decision Decision	costs and benefits of	Skills	Functional	
		SKIIIS	Skills	
Making	potential actions to choose		SKIIIS	6711
T .	the most appropriate one.	G .		6.711
Learning	Selecting and using	Systems	Cross	
Strategies	training/instructional	Skills	Functional	
	methods and procedures		Skills	
	appropriate for the			
	situation when learning or			
	teaching new things.			1.403
	reaching new minigo.	1	j .	1.105

Management of	Determining how money	Resource	Cross	
Financial	will be spent to get the	Management	functional	
Resources	work done, and accounting	Skills	Skills	
	for these expenditures.			
				-0.462
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			0
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
	best people for the job.			2.952
Mathematics	Using mathematics to	Content	Basic Skills	
	solve problems.			-0.24
Monitoring	Monitoring/Assessing	Process	Basic Skills	
	performance of yourself,			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.	- 1 1 21 111		-8.961
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.		Skills	1.889
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	2.602
0 1	properly.	m 1 1 1	G	3.602
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	0.467
		m 1 1 1	Skills	-0.467
Operations	Analyzing needs and	Technical	Cross	
Analysis	product requirements to	Skills	Functional	0.601
D '	create a design.	Social Skills	Skills	-0.601
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	2 004
D '	behavior.	T. 1 ' 1	Skills	-2.004
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	1 254
Ovality Canta 1	purposes.	Ta alami:1	Skills	-1.354
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
	services, or processes to		Skills	
	evaluate quality or			0.514
Danding	performance.	Cantact	Dania C1-:11	-0.514
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			0

	in work related			
	documents.			
Repairing	Repairing machines or	Technical	Cross	
	systems using the needed tools.	Skills	Functional Skills	
				0.112
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
	A 1 1 1 . C	G ' 1 G1 '11		0
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0.955
Social Perceptiveness	Being aware of others' reactions and understanding why they	Social Skills	Cross Functional Skills	
	react as they do.			-1.569
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	3.656
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect	Systems Skills	Cross Functional Skills	
	outcomes.			0
System Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	
	system.			2.682
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-2.594
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	2.315
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	
	of the audience.			1.473

R squared = 0.75		N=	78745

Table S3 Netherlands People, Brains, Brawn Analysis

	Netherlands -
	EU LFS
People	-0.014***
	(0.001)
Brains	-0.071***
	(0.001)
Brawn	0.039***
	(0.001)
People *	-0.001***
Brains	
	(0.000)
People*Brawn	0.001***
	(0.000)
Brains*Brawn	-0.009***
	(0.000)
N	74842
R Squared	12%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S22 Appendix. Individual country Norway

Table T1 Norway Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	-3.267
Auditory Attention	The ability to focus on a single source of sound in	Auditory and speech abilities	Sensory Abilities	0.191

		1	1	1
	the presence of other distracting sounds.			
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-0.559
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	2.538
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-9.808
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	-0.719
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	7.725
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-3.661
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	1.096
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-1.212

Far Vision	The ability to see details	Visual	Sensory	
Tai Vision	at a distance.	Abilities	Abilities	-2.393
Einaan		Fine	Admities	-2.393
Finger	The ability to make			
Dexterity	precisely coordinated	manipulative		
	movements of the fingers	abilities	Psychomotor	
	of one or both hands to		abilities	
	grasp, manipulate, or		0.01111120	
	assemble very small			
	objects.			0
Flexibility of	The ability to identify or	Perecptual		
Closure	detect a known pattern (a	Abilities	Camitina	
	figure, object, word, or		Cognitive	
	sound) that is hidden in		abilities	
	other distracting material.			1.019
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
lacas	about a topic (the number	reasoning	Cognitive	
	• `	abilities	abilities	
	of ideas is important, not	abilities	abilities	
	their quality, correctness,			6 002
C1	or creativity).	X 7' 1		-6.883
Glare	The ability to see objects	Visual	Sensory	
sensitivity	in the presence of glare or	abilities	abilities	
	bright lighting.		womines.	-1.185
Gross Body Co-	The ability to coordinate	Flexibility,		
ordination	the movement of your	Balance and		
	arms, legs, and torso	Coordination	Physical	
	together when the whole		Abilities	
	body is in motion.			
	•			0
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and	- · · ·	
1	or stay upright when in an	Coordination	Physical	
	unstable position.	Coordination	Abilities	
	unstable position.			0
Hearing	The ability to detect or tell	Auditory and		
Sensitivity	the differences between	Speech		
Schsilivity		abilities	Sensory	
	sounds that vary in pitch and loudness.	abilities	Abilities	
	and loudness.			
T 1 4	TP1 1 11 4 4 1 1	т 1		0
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
	form general rules or	and Reasoning		
	conclusions (includes	Abilities	Cognitive	
	finding a relationship		Abilities	
	among seemingly			
		1		
	unrelated events).			
	unrelated events).			0
Information	unrelated events). The ability to arrange	Idea	Cognitive	0
	unrelated events).			

	certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	and Reasoning Abilities		
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	1.992
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0.747
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	0.559
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0.603
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	-1.855
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	-0.953

Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	2.907
Originality		5 1		3.551
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-7.266
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	1.934
Problem		Idea		1.934
Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	generation and Reasoning Abilities	Cognitive Abilities	
	-			4.762
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	2.369
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It	Control Movement Abilities	Psychomotor Abilities	0

includes the speed with which the correct response is started with the hand, foot, or other body part. The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a sound originated. Attentiveness Cognitive Abilities O Sensory Abilities O
response is started with the hand, foot, or other body part. The ability to concentrate on a task over a period of time without being distracted. The ability to tell the direction from which a Attentiveness Cognitive Abilities O Sensory Abilities
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direction from which a Speech Sensory Abilities
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The ability to know your Spatial
location in relation to the Abilities
environment or to know Cognitive
where other objects are in Abilities
relation to you.
The ability to speak Auditory and
clearly so others can Speech Sensory
understand you. Abilities Abilities
0.516
The ability to identify and Auditory and Sensory
linderstand the speech of Speech '
another person. Abilities -0.739
The ability to quickly Perceptual
make sense of, combine, Abilities Cognitive
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move the arms and legs and Speed Psychomotor
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move the arms and legs. and Speed Abilities Psychomotor Abilities 0
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move the arms and legs. and Speed Abilities The ability to exert yourself physically over long periods of time without getting winded or Psychomotor Abilities 0 Physical Abilities
move the arms and legs. and Speed Abilities The ability to exert yourself physically over long periods of time without getting winded or out of breath. Psychomotor Abilities 0 Physical Abilities
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move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to and Speed Abilities Physical Abilities 1.761 Physical Strength Physical Dhysical
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move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to lift, push, pull, or carry objects. Psychomotor Abilities O Physical Abilities Physical Strength Abilities Physical Abilities
move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to lift, push, pull, or carry objects. Physical Abilities Physical Strength Abilities Physical Abilities O
move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to lift, push, pull, or carry objects. The ability to shift back and Speed Abilities Physical Abilities 1.761 Physical Strength Abilities O The ability to shift back Attentiveness
move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to lift, push, pull, or carry objects. Physical Abilities Physical Strength Abilities Physical Abilities O
move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to lift, push, pull, or carry objects. The ability to shift back and Speed Abilities Physical Abilities 1.761 Physical Strength Abilities O The ability to shift back Attentiveness
move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to lift, push, pull, or carry objects. The ability to shift back and forth between two or Abilities Psychomotor Abilities 0 Physical Physical Strength Abilities Physical Abilities O Attentiveness
move the arms and legs. The ability to exert yourself physically over long periods of time without getting winded or out of breath. The ability to exert maximum muscle force to lift, push, pull, or carry objects. The ability to shift back and forth between two or more activities or sources The ability to exert Abilities Physical Abilities Physical Abilities O Cognitive
understand the speech of another person. The ability to quickly make sense of, combine, and organize information into meaningful patterns. Speech Abilities Perceptual Cognitive Abilities Abilities 5.534

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	Physical Strength Abilities	Physical Abilities	-0.547
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	3.802
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	Spatial Abilities	Cognitive Abilities	-0.719
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0.723
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	0
R Squared = 0.93)		N=25624	

Table T2 Norway Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			Auto
Active Listening	Giving full attention to	Content	Basic Skills	
_	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			0

	questions as appropriate,			1
	and not interrupting at			
	inappropriate times.			
Complex	Identifying complex	Complex	Cross	
Problem Solving	problems and reviewing	Problem	Functional	
Floblem Solving	, <u>-</u>			
l	related information to	Solving	Skills	
l	develop and evaluate			
	options and implement			
	solutions.			0
Coordination	Adjusting actions in	Social Skills	Cross	
l	relation to others' actions.		Functional	
			Skills	-0.849
Critical	Using logic and reasoning	Process	Basic Skills	
Thinking	to identify the strengths			
	and weaknesses of			
	alternative solutions,			
	conclusions or approaches			
	to problems.			-3.075
Equipment	Performing routine	Technical	Cross	
Maintenance	maintenance on equipment	Skills	Functional	
	and determining when and		Skills	
1	what kind of maintenance		Skills	
1	is needed.			-2.241
Equipment	Determining the kind of	Technical	Cross	2.271
Selection	tools and equipment	Skills	Functional	
	needed to do a job.	SKIIIS	Skills	-1.883
Installation	Installing equipment,	Technical	Cross	-1.003
Histaliation	machines, wiring, or	Skills	Functional	
l		SKIIIS	Skills	
l	programs to meet		SKIIIS	1.612
T , , , ,	-	G : 1 G1 :11	C	1.012
Instructing		Social Skills		
	sometning.			0.072
T 1 . 1		a		0.073
_	_	•		
		Skills		
Making	=		Skills	
	** *			-2.641
Learning		Systems	Cross	
Strategies	training/instructional	Skills	Functional	
	methods and procedures		Skills	
	appropriate for the			
	situation when learning or			
	teaching new things.			3.924
Management of	Determining how money	Resource	Cross	
Financial	will be spent to get the	Management	functional	
Resources		Skills	Skills	
	1			1.635
Strategies Management of Financial	specifications. Teaching others how to do something. Considering the relative costs and benefits of potential actions to choose the most appropriate one. Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things. Determining how money	Skills Resource Management	Functional Skills Cross functional	

	T : : : : : : : : : : : : : : : : : : :		1	1
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			0.524
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
	best people for the job.			-0.79
Mathematics	Using mathematics to	Content	Basic Skills	0.75
1viamematics	solve problems.	Content	Busic Skills	0
Monitoring	Monitoring/Assessing	Process	Basic Skills	0
Widilioling	performance of yourself,	110008	Dasic Skills	
	1 =			
	other individuals, or			
	organizations to make			
	improvements or take			
	corrective action.			0
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.		Skills	-8.077
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	
	properly.			2.389
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	
	-11		Skills	2.356
Operations	Analyzing needs and	Technical	Cross	
Analysis	product requirements to	Skills	Functional	
7 mary 515	create a design.	SKIIIS	Skills	0
Persuasion	Persuading others to	Social Skills	Cross	0
reisuasion	change their minds or	Social Skills		
			functional	0.005
D	behavior.	T11	Skills	-0.905
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	1.004
2 11 -	purposes.		Skills	-1.294
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
	services, or processes to		Skills	
	evaluate quality or			
	performance.			-0.751
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			
_	in work related			
	documents.			
				-0.871
Repairing	Repairing machines or	Technical	Cross	, , , ,
1.07	systems using the needed	Skills	Functional	
	tools.		Skills	-1.907
	10013.		DITII2	-1.707

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
				-1.063
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0.588
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and understanding why they		Functional Skills	
	react as they do.			0
Speaking	Talking to others to convey information	Content	Basic Skills	
	effectively.			0
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	0
System	Identifying measures or	Systems	Cross	
Evaluation	indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Skills	Functional Skills	
	system.			0.966
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	2.025
Time	Managing one's own time	Resource	Cross	
Management	and the time of others.	Management Skills	Functional Skills	-3.365
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	2.172
Writing	Communicating	Content	Basic Skills	2.1/2
writing	effectively in writing as appropriate for the needs of the audience.	Content	Dasic Skills	
				1.649
R squared = 0.78			N=	25624

Table T3 Norway People, Brains, Brawn Analysis

	Norway – EU LFS
People	-0.010***
-	(0.001)
Brains	-0.086***
	(0.002)
Brawn	-0.006***
	(0.001)
People *	0.004***
Brains	
	(0.001)
People*Brawn	-0.006***
	(0.001)
Brains*Brawn	-0.003***
	(0.001)
N	25247
R Squared	12%

^{***, **, *} denotes significance at the 1%, 5% and 10% levels

respectively

S23 Appendix. Individual country Portugal

Table U1 Portugal Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand	The ability to keep your	Fine		
Steadiness	hand and arm steady while moving your arm or while holding your arm and hand in one position.	manipulative abilities	Psychomotor abilities	
				-4.663
Auditory Attention	The ability to focus on a single source of sound in the presence of other	Auditory and speech abilities	Sensory Abilities	
	distracting sounds.			0

Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-1.474
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	3.058
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-6.413
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	3.108
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-0.954
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	0.383
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-1.87
Far Vision	The ability to see details at a distance.	Visual Abilities	Sensory Abilities	-2.329

Finger	The chility to make	Fine		
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small	rine manipulative abilities	Psychomotor abilities	
	objects.			1.85
Flexibility of Closure	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	Perecptual Abilities	Cognitive abilities	0
Fluency of ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	Ideas generation and reasoning abilities	Cognitive abilities	-3.597
Glare sensitivity	The ability to see objects in the presence of glare or bright lighting.	Visual abilities	Sensory abilities	-2.289
Gross Body Co- ordination	The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.	Flexibility, Balance and Coordination	Physical Abilities	
Gross Body Equilibrium	The ability to keep or regain your body balance or stay upright when in an unstable position.	Flexibility, Balance and Coordination	Physical Abilities	0
Hearing Sensitivity	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	Auditory and Speech abilities	Sensory Abilities	0
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	Idea Generation and Reasoning Abilities	Cognitive Abilities	0
Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific	Idea Generation and Reasoning Abilities	Cognitive Abilities	0

	rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).			
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	0
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0.65
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	1.052
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	0
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	0

Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	3.962
Originality	others will understand.			0
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-5.847
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	3.416
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	2.731
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	1.406
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	3.2
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with	Control Movement Abilities	Psychomotor Abilities	-4.826

	1 1 1 1			
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of		Cognitive	
Aucition	<u> </u>		_	
	time without being		Abilities	
	distracted.			-0.28
Sound	The ability to tell the	Auditory and	Sensory	
Localisation	direction from which a	Speech	•	
	sound originated.	Abilities	Abilities	-2.585
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities		
Offentation		Admittes	Cognitive	
	environment or to know		Abilities	
	where other objects are in		110111110	
	relation to you.			0.881
Speech Clarity	The ability to speak	Auditory and		
J J	clearly so others can	Speech	Sensory	
	understand you.	Abilities	Abilities	
	understand you.	Admittes	Aumues	
				0
Speech	The ability to identify and	Auditory and	Sensory	
Recognition	understand the speech of	Speech	Abilities	
	another person.	Abilities	Admittes	-2.608
Speed of	The ability to quickly	Perceptual		
Closure	make sense of, combine,	Abilities	Cognitive	
Closuic		Admics	Abilities	
	and organize information		Admittes	7.060
	into meaningful patterns.			5.069
Speed of Limb	The ability to quickly	Reaction Time	Psychomotor	
Movement	move the arms and legs.	and Speed	Abilities	
		Abilities	Abilities	-1.231
Stamina	The ability to exert	Endurance		
Stanima	yourself physically over	Enquiance		
			D1 ' 1	
	long periods of time		Physical	
	without getting winded or		Abilities	
	out of breath.			
				1.536
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength		
		Abilities	Physical	
	lift, push, pull, or carry	Aumues	Abilities	
	objects.			
				0
Time Sharing	The ability to shift back	Attentiveness		
	and forth between two or			
	more activities or sources		Cognitive	
	of information (such as		Abilities	
	`		AUIIIICS	
	speech, sounds, touch, or			2 220
	other sources).			3.328

T1- C4	T11. 1114 - 4	D1:1		
Trunk Strength	The ability to use your	Physical		
	abdominal and lower back	Strength		
	muscles to support part of	Abilities	Physical	
	the body repeatedly or		Abilities	
	continuously over time		Aomics	
	without 'giving out' or			
	fatiguing.			0
Visual Color	The ability to match or	Visual		
Discrimination	detect differences between	Abilities		
	colors, including shades		Sensory	
	of color and brightness.		Abilities	
	or color and originaless.			5.319
Visualisation	The ability to imagine	Spatial		
	how something will look	Abilities	G :::	
	after it is moved around or		Cognitive	
	when its parts are moved		Abilities	
	or rearranged.			-1.384
Wrist-Finger	The ability to make fast,	Reaction Time		
Speed	simple, repeated	and Speed	Psychomotor	
1	movements of the fingers,	Abilities	Abilities	
	hands, and wrists.			-0.773
Written	The ability to read and	Verbal		
Comprehension	understand information	Abilities	Cognitive	
	and ideas presented in		Abilities	
	writing.			0.762
Written	The ability to	Verbal		
Expression	communicate information	Abilities	Cognitive	
	and ideas in writing so		Abilities	
	others will understand.			-0.237
R Squared $= 0.99$			N=108643	

Table U2 Portugal Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			2.492
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			0

	saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.			
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	Complex Problem Solving	Cross Functional Skills	-1.798
Coordination	Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-6.175
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	Process	Basic Skills	-4.707
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	Technical Skills	Cross Functional Skills	0
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross Functional Skills	1.659
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Cross Functional Skills	0
Instructing	Teaching others how to do something.	Social Skills	Cross Functional Skills	-3.77
Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	Systems Skills	Cross Functional Skills	2.079
Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	Systems Skills	Cross Functional Skills	0.619
Management of Financial Resources	Determining how money will be spent to get the	Resource Management Skills	Cross functional Skills	0

	work done, and accounting for these expenditures.			
Management of Material Resources	Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do	Resource Management Skills	Cross functional Skills	
	certain work.			-0.524
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
	best people for the job.			0.943
Mathematics	Using mathematics to	Content	Basic Skills	
	solve problems.			-0.928
Monitoring	Monitoring/Assessing performance of yourself, other individuals, or	Process	Basic Skills	
	organizations to make			
	improvements or take			6.465
XX	corrective action.	0 1 01 11		-6.467
Negotiation	Bringing others together and trying to reconcile differences.	Social Skills	Cross functional Skills	1.511
Operation	Watching gauges, dials, or	Technical	Cross	1.311
Monitoring	other indicators to make	Skills	Functional	
Womtoring	sure a machine is working	OKIIIS	Skills	
	properly.			3.836
Operation and	Controlling operations of	Technical	Cross	3.020
Control	equipment or systems.	Skills	Functional	
			Skills	-1.301
Operations	Analyzing needs and	Technical	Cross	1,001
Analysis	product requirements to	Skills	Functional	
J	create a design.		Skills	-0.902
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.		Skills	-1.078
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	
	purposes.		Skills	0
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
	services, or processes to		Skills	
	evaluate quality or			
	performance.			0
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			
	in work related			
	documents.			
				0

Repairing	Repairing machines or systems using the needed tools.	Technical Skills	Cross Functional Skills	
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	-2.023
				0.94
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	Social Skills	Cross Functional Skills	0
Speaking	Talking to others to convey information effectively.	Content	Basic Skills	5.152
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect	Systems Skills	Cross Functional Skills	
System Evaluation	outcomes. Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.	Systems Skills	Cross Functional Skills	6.524
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-3.691
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	3.527
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	-1.226
R squared = 0.88			N=	108643

Table U3 Portugal People, Brains, Brawn Analysis

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S24 Appendix. Individual country Sweden

Table V1 Sweden Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand	The ability to keep your	Fine		
Steadiness	hand and arm steady while moving your arm or while holding your arm and hand in one position.	manipulative abilities		
	_		-4.574	-4.574
Auditory	The ability to focus on a	Auditory and		
Attention	single source of sound in	speech		
	the presence of other	abilities		
	distracting sounds.		0.832	0.832

Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	-2.515	-2.515
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities		
	1		2.133	2.133
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	-6.99	-6.99
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities		
	J		0	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	4	4
Dynamic	The ability to exert	Physical	4	4
Strength	muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Strength	-2.253	-2.253
Explosive	The ability to use short	Physical	-2.233	-2.233
Strength	bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Strength	0.65	
.	771 1 111 · · · · · · · · · · · · · · ·	T1 11 11 11 11 11 11 11 11 11 11 11 11 1	0.654	0.654
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	-2.58	-2.58
Far Vision	The ability to see details at a distance.	Visual Abilities	-3.289	-3.289

E.	TD1 1 111 1 1	г.		
Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
	movements of the fingers	abilities		
	of one or both hands to			
	grasp, manipulate, or			
	assemble very small			
	objects.		3.215	3.215
Flexibility of	The ability to identify or	Perecptual	3.213	3.210
Closure	detect a known pattern (a	Abilities		
Closuic	<u> </u>	Admitics		
	figure, object, word, or			
	sound) that is hidden in		0	
	other distracting material.		0	0
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
	about a topic (the number	reasoning		
	of ideas is important, not	abilities		
	their quality, correctness,			
	or creativity).		-3.908	-3.908
Glare	The ability to see objects	Visual		
sensitivity	in the presence of glare or	abilities		
Schistervity	bright lighting.	aomics	-3.234	-3.234
Casa Dada Ca		E1 11-1114	-3.234	-3.234
Gross Body Co-	The ability to coordinate	Flexibility,		
ordination	the movement of your	Balance and		
	arms, legs, and torso	Coordination		
	together when the whole			
	body is in motion.			
			0	0
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and		
	or stay upright when in an	Coordination		
	unstable position.			
	January P. Santan		0	0
Hearing	The ability to detect or tell	Auditory and		
Sensitivity	the differences between	Speech		
Schsitivity	sounds that vary in pitch	abilities		
	and loudness.	abilities		
	and loudness.		1 000	1.002
T 1	701 1:1:4	т 1	-1.882	-1.882
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
	form general rules or	and Reasoning		
	conclusions (includes	Abilities		
	finding a relationship			
	among seemingly			
	unrelated events).			
			0	0
Information	The ability to arrange	Idea		
Ordering	things or actions in a	Generation		
Ordering				
	certain order or pattern	and Reasoning	0	
	according to a specific	Abilities	0	0

	I	1	T.	1
	rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).			
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities		
	J		0	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities		
	1		0.318	0.318
Memorization	Abilities related to the recall of available	Quantitative Abilities		
Multi Limb Co	information	Control	0	0
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	1.897	1.897
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	0	0
Night Vision	The ability to see under	Near Vision	U	U
	low light conditions	1.001	0	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities		
			0	0
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities		
			0	0

Oral Expression	The ability to communicate information	Verbal Abilities		
	and ideas in speaking so	Admittes		
	others will understand.		3.548	3.548
Originality	omers will allevisuate.		0	0
Perceptual	The ability to quickly and	Perceptual		
Speed	accurately compare	Abilities		
	similarities and			
	differences among sets of			
	letters, numbers, objects,			
	pictures, or patterns. The things to be compared			
	may be presented at the			
	same time or one after the			
	other. This ability also			
	includes comparing a			
	presented object with a			
D 1	remembered object.	X 7' 1	-5.404	-5.404
Perceptual Vision	The ability to see objects	Visual Abilities		
VISIOII	or movement of objects to one's side when the eyes	Admittes		
	are looking ahead.		2.771	2.771
Problem	The ability to tell when	Idea	2.,,1	2.7,1
Sensitivity	something is wrong or is	generation and		
	likely to go wrong. It does	Reasoning		
	not involve solving the	Abilities		
	problem, only recognizing			
	there is a problem.		3.361	3.361
Rate Control	The ability to time your	Control		
	movements or the	Movement		
	movement of a piece of	Abilities		
	equipment in anticipation of changes in the speed			
	and/or direction of a			
	moving object or scene.			
			2.833	2.833
Reaction Time	The ability to quickly	Reaction Time		
	respond (with the hand,	and Speed		
	finger, or foot) to a signal	Abilities		
	(sound, light, picture) when it appears.		2.024	2.024
Response	The ability to choose	Control	2.027	2.027
Orientation	quickly between two or	Movement		
	more movements in	Abilities		
	response to two or more			
	different signals (lights,			
	sounds, pictures). It		4.621	4.621
	includes the speed with		-4.621	-4.621

	1 1 1 1			
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of			
7 Ittellion	time without being			
	distracted.		1.020	1.020
G 1		A 11. 1	-1.029	-1.029
Sound	The ability to tell the	Auditory and		
Localisation	direction from which a	Speech		
	sound originated.	Abilities	-1.048	-1.048
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities		
	environment or to know			
	where other objects are in			
	_		1.188	1.188
0 1 01 1	relation to you.	A 1'4 1	1.100	1.100
Speech Clarity	The ability to speak	Auditory and		
	clearly so others can	Speech		
	understand you.	Abilities		
			0.865	0.865
Speech	The ability to identify and	Auditory and		
Recognition	understand the speech of	Speech		
110008	another person.	Abilities	-1.968	-1.968
Speed of	The ability to quickly	Perceptual	11,500	1.500
Closure	make sense of, combine,	Abilities		
Closule		Aumiles		
	and organize information		.	5 00 5
	into meaningful patterns.		5.997	5.997
Speed of Limb	The ability to quickly	Reaction Time		
Movement	move the arms and legs.	and Speed		
		Abilities	0	0
Stamina	The ability to exert	Endurance		
	yourself physically over			
	long periods of time			
	without getting winded or			
	out of breath.			
	out of breath.		1.270	1.270
	m 1 111	DI I	1.279	1.279
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength		
	lift, push, pull, or carry	Abilities		
	objects.			
			0.649	0.649
Time Sharing	The ability to shift back	Attentiveness		· ·
	and forth between two or			
	more activities or sources			
	of information (such as			
	speech, sounds, touch, or			
	other sources).		2.238	2.238

Trunk Strength	The ability to use your	Physical		
	abdominal and lower back	Strength		
	muscles to support part of	Abilities		
	the body repeatedly or			
	continuously over time			
	without 'giving out' or			
	fatiguing.		0.367	0.367
Visual Color	The ability to match or	Visual		
Discrimination	detect differences between	Abilities		
	colors, including shades			
	of color and brightness.			
			5.053	5.053
Visualisation	The ability to imagine	Spatial		
	how something will look	Abilities		
	after it is moved around or			
	when its parts are moved			
	or rearranged.		-0.515	-0.515
Wrist-Finger	The ability to make fast,	Reaction Time		
Speed	simple, repeated	and Speed		
	movements of the fingers,	Abilities		
	hands, and wrists.		-1.032	-1.032
Written	The ability to read and	Verbal		
Comprehension	understand information	Abilities		
	and ideas presented in			
	writing.		1.139	1.139
Written	The ability to	Verbal		
Expression	communicate information	Abilities		
	and ideas in writing so			
	others will understand.		0	0
R Squared = 0.98			N=282220	

Table V2 Sweden Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0
Active Listening	Giving full attention to	Content	Basic Skills	
_	what other people are			-1.817

	saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.			
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	Complex Problem Solving	Cross Functional Skills	-1.359
Coordination	Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-5.734
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	Process	Basic Skills	-2.063
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	Technical Skills	Cross Functional Skills	0
Equipment Selection	Determining the kind of tools and equipment	Technical Skills	Cross Functional	0
Installation	needed to do a job. Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Skills Cross Functional Skills	0.253
Instructing	Teaching others how to do something.	Social Skills	Cross Functional Skills	-3.45
Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	Systems Skills	Cross Functional Skills	3.773
Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	Systems Skills	Cross Functional Skills	1.669
Management of Financial Resources	Determining how money will be spent to get the	Resource Management Skills	Cross functional Skills	-0.469

	work done, and accounting for these expenditures.			
Management of Material Resources	Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.	Resource Management Skills	Cross functional Skills	0
Management of	Motivating, developing,	Resource	Cross	0
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
Resources	best people for the job.	OKIIIS	SKIIIS	0.299
Mathematics	Using mathematics to	Content	Basic Skills	0.233
TVIA III CIII ALICS	solve problems.	Content	Busic Skills	-0.766
Monitoring	Monitoring/Assessing performance of yourself,	Process	Basic Skills	0.700
	other individuals, or organizations to make improvements or take			
	corrective action.			-10.242
Negotiation	Bringing others together	Social Skills	Cross	10.272
1 (egonamon	and trying to reconcile differences.		functional Skills	3.187
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working properly.		Skills	4.413
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	
			Skills	-1.546
Operations	Analyzing needs and	Technical	Cross	
Analysis	product requirements to	Skills	Functional	
	create a design.		Skills	-0.225
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	2 022
D .	behavior.	TD 1 1 1	Skills	-2.033
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	1 121
Quality Cantral	purposes.	Technical	Skills	-1.131
Quality Control	Conducting tests and inspections of products,	Skills	Cross functional	
Analysis	services, or processes to	SKIIIS	Skills	
	evaluate quality or		SKIIIS	
	performance.			0
Reading	Understanding written	Content	Basic Skills	
Comprehension	sentences and paragraphs			
1	in work related			
	documents.			
				0

Repairing	Repairing machines or systems using the needed	Technical Skills	Cross Functional	
	tools.		Skills	-3.345
Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	
	proofems.			0.253
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	0.725
Social Perceptiveness	Being aware of others' reactions and understanding why they	Social Skills	Cross Functional Skills	0
Speaking	react as they do. Talking to others to convey information effectively.	Content	Basic Skills	4.215
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect	Systems Skills	Cross Functional Skills	4.213
System Evaluation	outcomes. Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Systems Skills	Cross Functional Skills	0
	system.			4.553
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-4.3
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	2.211
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	0.918
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	0.710
				2.032
R squared = 0.82			N=	282220

Table V3 Sweden People, Brains, Brawn Analysis

	Sweden - EU
	LFS
People	-0.017***
	(0.000)
Brains	-0.113***
	(0.001)
Brawn	0.014***
	(0.000)
People *	0.018***
Brains	
	(0.000)
People*Brawn	-0.001***
	(0.000)
Brains*Brawn	-0.019***
	(0.000)
N	281782
R Squared	17%

***, **, * denotes significance at the 1%, 5% and 10% levels

respectively

S25 Appendix. Individual country Slovakia

Table W1 Slovakia Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	Fine manipulative abilities	Psychomotor abilities	-3.847
Auditory Attention	The ability to focus on a single source of sound in	Auditory and speech abilities	Sensory Abilities	0

		T	l	1
	the presence of other distracting sounds.			
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-0.904
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities	Psychomotor Abilities	1.338
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	Cognitive Abilities	-7.165
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities	Sensory Abilities	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination	Physical Abilities	3.091
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength	Physical Abilities	-1.343
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength	Physical Abilities	1.284
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	Flexibility, balance and coordination	Physical Abilities	-2.69

г т	TTI 1 1114 4 1 4 11	T 7' 1	C	
Far Vision	The ability to see details	Visual	Sensory	
	at a distance.	Abilities	Abilities	-2.691
Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
,	movements of the fingers	abilities		
	of one or both hands to		Psychomotor	
			abilities	
	grasp, manipulate, or			
	assemble very small			
	objects.			3.525
Flexibility of	The ability to identify or	Perecptual		
Closure	detect a known pattern (a	Abilities		
	figure, object, word, or		Cognitive	
	sound) that is hidden in		abilities	
				0.052
	other distracting material.			-0.052
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
	about a topic (the number	reasoning	Cognitive	
	of ideas is important, not	abilities	abilities	
	their quality, correctness,		0.01110100	
	or creativity).			-2.92
C1		Visual		-2.92
Glare	The ability to see objects		Sensory	
sensitivity	in the presence of glare or	abilities	abilities	
	bright lighting.		domnes	-2.412
Gross Body Co-	The ability to coordinate	Flexibility,		
ordination	the movement of your	Balance and		
	arms, legs, and torso	Coordination	Physical	
	together when the whole	Coordination	Abilities	
	_		Admitics	
	body is in motion.			
				0
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and	Dhygiaal	
	or stay upright when in an	Coordination	Physical	
	unstable position.		Abilities	
	The second of th			0
Hearing	The ability to datest or tall	Auditory and		<u> </u>
Hearing	The ability to detect or tell	Auditory and		
Sensitivity	the differences between	Speech	Sensory	
	sounds that vary in pitch	abilities	Abilities	
	and loudness.		7 tomties	
				-1.299
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
110000111115	form general rules or	and Reasoning		
		_	Comitive	
	conclusions (includes	Abilities	Cognitive	
	finding a relationship		Abilities	
	among seemingly			
	unrelated events).			
	ĺ			0
Information	The ability to arrange	Idea	Cognitive	
Ordering	things or actions in a	Generation	Abilities	-1.637
Ordering	dinigs of actions in a	Generation	1101111103	1.05/

	certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	and Reasoning Abilities		
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	Psychomotor Abilities	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	Cognitive Abilities	2.084
Memorization	Abilities related to the recall of available information	Quantitative Abilities	Cognitive Abilities	0
Multi Limb Coordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities	Psychomotor Abilities	1.475
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	Visual Abilities	-0.562
Night Vision	The ability to see under low light conditions	Near Vision	Visual Abilities	0
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities	Cognitive Abilities	1 092
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	Cognitive Abilities	-1.982 0

Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	Cognitive Abilities	3.214
Originality				0
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	Perceptual Abilities	Cognitive Abilities	-4.478
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	Sensory Abilities	0.74
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	Idea generation and Reasoning Abilities	Cognitive Abilities	3.432
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	Psychomotor Abilities	2.903
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It	Control Movement Abilities	Psychomotor Abilities	-2.404

	* 1 1 11 1 1 1.1			
	includes the speed with			
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of		Cognitive	
	time without being		Abilities	
	distracted.			0
Sound	The ability to tell the	Auditory and		
Localisation	direction from which a	Speech	Sensory	
Localisation		Abilities	Abilities	-0.307
C 4: . 1	sound originated.			-0.307
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities	Cognitive	
	environment or to know		Abilities	
	where other objects are in		7 tomties	
	relation to you.			1.682
Speech Clarity	The ability to speak	Auditory and		
	clearly so others can	Speech	Sensory	
	understand you.	Abilities	Abilities	
		110111110	1101110100	1.371
Speech	The ability to identify and	Auditory and		1.5 / 1
Recognition	understand the speech of	Speech	Sensory	
Recognition	-	-	Abilities	2.602
C 1 C	another person.	Abilities		-2.602
Speed of	The ability to quickly	Perceptual		
Closure	make sense of, combine,	Abilities	Cognitive	
	and organize information		Abilities	
	into meaningful patterns.			5.444
Speed of Limb	The ability to quickly	Reaction Time	Darrahamatan	
Movement	move the arms and legs.	and Speed	Psychomotor	
		Abilities	Abilities	-0.419
Stamina	The ability to exert	Endurance		-
	yourself physically over			
	long periods of time		Physical	
			Abilities	
	without getting winded or		Admines	
	out of breath.			1 240
g	(T) 1 111	D1 1 1		1.249
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength	Physical	
	lift, push, pull, or carry	Abilities	Abilities	
	objects.		Admittes	
	_			0
Time Sharing	The ability to shift back	Attentiveness		
	and forth between two or			
	more activities or sources		Cognitive	
			Abilities	
	of information (such as		Admines	
	speech, sounds, touch, or			2.695
	other sources).			2.685

Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or	Physical Strength Abilities	Physical Abilities	
	fatiguing.			0
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	Visual Abilities	Sensory Abilities	4.027
Visualisation	The ability to imagine how something will look after it is moved around or when its parts are moved	Spatial Abilities	Cognitive Abilities	
Wrist-Finger Speed	or rearranged. The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	Reaction Time and Speed Abilities	Psychomotor Abilities	0
Written Comprehension	The ability to read and understand information and ideas presented in writing.	Verbal Abilities	Cognitive Abilities	0.543
Written Expression	The ability to communicate information and ideas in writing so others will understand.	Verbal Abilities	Cognitive Abilities	-0.852
R Squared = 0.98	5		N=66551	

Table W2 Slovakia Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			0
Active Listening	Giving full attention to	Content	Basic Skills	
	what other people are			
	saying, taking time to			
	understand the points			
	being made, asking			-1.927

	T	I	1	1
	questions as appropriate,			
	and not interrupting at			
	inappropriate times.			
Complex	Identifying complex	Complex	Cross	
Problem Solving	problems and reviewing	Problem	Functional	
	related information to	Solving	Skills	
	develop and evaluate			
	options and implement			
	solutions.			-3.572
Coordination	Adjusting actions in	Social Skills	Cross	3.372
Coordination	relation to others' actions.	Social Skills	Functional	
	Telation to others actions.			4 154
G 1:: 1	TT 1 1 1 1 1	<i>D</i>	Skills	-4.154
Critical	Using logic and reasoning	Process	Basic Skills	
Thinking	to identify the strengths			
	and weaknesses of			
	alternative solutions,			
	conclusions or approaches			
	to problems.			0
Equipment	Performing routine	Technical	Cross	
Maintenance	maintenance on equipment	Skills	Functional	
	and determining when and		Skills	
	what kind of maintenance			
	is needed.			0
Equipment	Determining the kind of	Technical	Cross	
Selection	tools and equipment	Skills	Functional	
Sciection	needed to do a job.	OKIIIS	Skills	2.262
Installation	Installing equipment,	Technical	Cross	2.202
Ilistaliation	mistarining equipment,	Skills	Functional	
	machines, wiring, or	SKIIIS	Skills	
	programs to meet		SKIIIS	0.171
T	specifications.	G : 1 G1 :11	C	0.171
Instructing	Teaching others how to do	Social Skills	Cross	
	something.		Functional	
			Skills	-2.917
Judgement and	Considering the relative	Systems	Cross	
Decision	costs and benefits of	Skills	Functional	
Making	potential actions to choose		Skills	
	the most appropriate one.			4.844
Learning	Selecting and using	Systems	Cross	
Strategies	training/instructional	Skills	Functional	
	methods and procedures		Skills	
	appropriate for the			
	situation when learning or			
	teaching new things.			1.611
Management of	Determining how money	Resource	Cross	1.011
Financial	will be spent to get the		functional	
	1 0	Management Skills	Skills	
Resources	work done, and accounting	SKIIIS	SKIIIS	
	for these expenditures.			
	<u> </u>			0

	T	T	T	1
Management of	Obtaining and seeing to	Resource	Cross	
Material	the appropriate use of	Management	functional	
Resources	equipment, facilities, and	Skills	Skills	
	materials needed to do			
	certain work.			-0.463
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
11050011005	best people for the job.			0
Mathematics	Using mathematics to	Content	Basic Skills	
iviationatios	solve problems.	Content	Dasie Skills	-0.219
Monitoring	Monitoring/Assessing	Process	Basic Skills	0.217
Widilitoring	performance of yourself,	110008	Dasic Skills	
	_ =			
	other individuals, or			
	organizations to make			
	improvements or take			0.241
N T	corrective action.	G : 1 G1 '11	C	-8.341
Negotiation	Bringing others together	Social Skills	Cross	
	and trying to reconcile		functional	
	differences.		Skills	1.003
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make	Skills	Functional	
	sure a machine is working		Skills	
	properly.			4.521
Operation and	Controlling operations of	Technical	Cross	
Control	equipment or systems.	Skills	Functional	
			Skills	-1.103
Operations	Analyzing needs and	Technical	Cross	
Analysis	product requirements to	Skills	Functional	
,	create a design.		Skills	-0.812
Persuasion	Persuading others to	Social Skills	Cross	
	change their minds or		functional	
	behavior.		Skills	-0.888
Programming	Writing computer	Technical	Cross	0.000
11081411111111	programs for various	Skills	functional	
	purposes.	OKIIIS	Skills	0
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
2 111a1 y 313	services, or processes to	DKIIIS	Skills	
	evaluate quality or		SKIIIS	
	performance.			0
Danding	1 *	Content	Basic Skills	U
Reading	Understanding written	Content	Dasic Skills	
Comprehension	sentences and paragraphs			
	in work related			
	documents.			
D		m 1 : 1		0
Repairing	Repairing machines or	Technical	Cross	
	systems using the needed	Skills	Functional	
	tools.		Skills	-2.096

Science	Using scientific rules and methods to solve problems.	Content	Basic Skills	0.057
2 .		0 1 01 11		-0.057
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional Skills	2.44
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and understanding why they		Functional Skills	
	react as they do.			-2.539
Speaking	Talking to others to convey information	Content	Basic Skills	
	effectively.			5.083
System Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	Systems Skills	Cross Functional Skills	0
System	Identifying measures or	Systems	Cross	
Evaluation	indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the	Skills	Functional Skills	
	system.			3.692
Technology Design	Generating or adapting equipment and technology to serve user needs.	Technical Skills	Cross Functional Skills	-4.003
Time Management	Managing one's own time and the time of others.	Resource Management Skills	Cross Functional Skills	3.849
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	Technical Skills	Cross Functional Skills	-1.045
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	Content	Basic Skills	0
R squared = 0.88			N=	66551

Table W3 Slovakia People, Brains, Brawn Analysis

	Slovakia – EU LFS
People	0.092***
	(0.001)
Brains	-0.134***
	(0.001)
Brawn	0.049***
	(0.001)
People *	-0.026***
Brains	
	(0.000)
People*Brawn	-0.013***
	(0.000)
Brains*Brawn	-0.029***
	(0.001)
N	66509
R Squared	37%

^{***, **, *} denotes significance at the 1%, 5% and 10% levels

respectively

S26 Appendix. Individual country UK

Table X.1 UK Ability Lasso Analysis

ONET Item	Description			Coefficient
Arm-Hand Steadiness	The ability to keep your hand and arm steady	Fine manipulative		
	while moving your arm or while holding your arm and hand in one position.	abilities		
	_		-3.019	-3.019
Auditory	The ability to focus on a	Auditory and		
Attention	single source of sound in	speech		
		abilities	0	0

		T		
	the presence of other distracting sounds.			
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	Idea Generation and Reasoning Abilities		
G 1	TD1 1:11: 1 1.11	G . 1	-3.02	-3.02
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	Control Movement Abilities		
	venicie to exact positions.		0.503	0.503
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	Idea Generation and Reasoning Abilities	-3.313	-3.313
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	Visual Abilities		
			0	0
Dynamic Flexibility	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	Flexibility, Balance and Coordination		2.212
D :	TP1 1:11:4 4	D1 1	3.213	3.213
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	Physical Strength		
			0	0
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	Physical Strength		
	m 1111 1	71	0.9	0.9
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms,	Flexibility, balance and coordination		
	and/or legs.		-2.451	-2.451

r	T	T	l	
Far Vision	The ability to see details	Visual		
	at a distance.	Abilities	0	0
Finger	The ability to make	Fine		
Dexterity	precisely coordinated	manipulative		
	movements of the fingers	abilities		
	of one or both hands to			
	grasp, manipulate, or			
	assemble very small			
	objects.		1.78	1.78
Flexibility of	The ability to identify or	Perecptual	1.70	1.70
Closure		Abilities		
Closure	detect a known pattern (a	Admilles		
	figure, object, word, or			
	sound) that is hidden in			
	other distracting material.		-0.888	-0.888
Fluency of	The ability to come up	Ideas		
ideas	with a number of ideas	generation and		
	about a topic (the number	reasoning		
	of ideas is important, not	abilities		
	their quality, correctness,			
	or creativity).		-2.243	-2.243
Glare	The ability to see objects	Visual	2.2 13	2.213
		abilities		
sensitivity	in the presence of glare or	aomines	2.756	2.756
G P 1 G	bright lighting.	T1 11 11 11 11 11 11 11 11 11 11 11 11 1	-2.756	-2.756
Gross Body Co-	The ability to coordinate	Flexibility,		
ordination	the movement of your	Balance and		
	arms, legs, and torso	Coordination		
	together when the whole			
	body is in motion.			
			0	0
Gross Body	The ability to keep or	Flexibility,		
Equilibrium	regain your body balance	Balance and		
1	or stay upright when in an	Coordination		
	unstable position.			
	distant position.		-0.688	-0.688
Hearing	The ability to detect or tell	Auditory and	0.000	0.000
_	the differences between	•		
Sensitivity		Speech		
	sounds that vary in pitch	abilities		
	and loudness.		1.201	1.001
			-1.301	-1.301
Inductive	The ability to combine	Idea		
Reasoning	pieces of information to	Generation		
	form general rules or	and Reasoning		
	conclusions (includes	Abilities		
	finding a relationship			
	among seemingly			
	unrelated events).			
	ameiated events).		0	0
Information	The chility to among as	Idea	U	0
	The ability to arrange			
Ordering	things or actions in a	Generation	0	0

	certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	and Reasoning Abilities		
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	Fine Manipulative Abilities	0	0
Math Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	Quantitative Abilities	1.891	1.891
Memorization	Abilities related to the recall of available information	Quantitative Abilities	0.897	0.897
Multi Limb Co- ordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	Control movement abilities		
Near Vision	The ability to see details at close range (within a few feet of the observer)	Near Vision	1.043	1.043
Night Vision	The ability to see under low light conditions	Near Vision	2.809	2.809
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	Quantitative Abilities		
			-2.138	-2.138
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	Verbal Abilities	-0.798	-0.798

Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	Verbal Abilities	3.675	3.675
Originality			0	0
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a	Perceptual Abilities	4.412	4.412
	remembered object.		-4.412	-4.412
Perceptual Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	Visual Abilities	0	0
Problem	The ability to tell when	Idea		
Sensitivity	something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	generation and Reasoning Abilities		
	•		3.375	3.375
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	Control Movement Abilities	4.072	4.072
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	Reaction Time and Speed Abilities	0	0
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It	Control Movement Abilities	-2.821	-2.821

				1
	includes the speed with			
	which the correct			
	response is started with			
	the hand, foot, or other			
	body part.			
Selective	The ability to concentrate	Attentiveness		
Attention	on a task over a period of			
	time without being			
	distracted.		0	0
Sound	The ability to tell the	Auditory and	0	O .
Localisation	direction from which a	Speech		
Localisation		-		
G 4: 1	sound originated.	Abilities	0	0
Spatial	The ability to know your	Spatial		
Orientation	location in relation to the	Abilities		
	environment or to know			
	where other objects are in			
	relation to you.		0	0
Speech Clarity	The ability to speak	Auditory and		
	clearly so others can	Speech		
	understand you.	Abilities		
			-0.25	-0.25
Speech	The ability to identify and	Auditory and	0.20	0.20
Recognition	understand the speech of	Speech		
Recognition	another person.	Abilities	-2.622	-2.622
Canadas			-2.022	-2.022
Speed of	The ability to quickly	Perceptual		
Closure	make sense of, combine,	Abilities		
	and organize information			
	into meaningful patterns.		4.591	4.591
Speed of Limb	The ability to quickly	Reaction Time		
Movement	move the arms and legs.	and Speed		
		Abilities	-1.457	-1.457
Stamina	The ability to exert	Endurance		
	yourself physically over			
	long periods of time			
	without getting winded or			
	out of breath.			
	out of ofeatif.		0.948	0.948
Ctatio Cture at 1	The chility to asset	Dhygias 1	0.740	0.740
Static Strength	The ability to exert	Physical		
	maximum muscle force to	Strength		
	lift, push, pull, or carry	Abilities		
	objects.			
			1.268	1.268
Time Sharing	The ability to shift back	Attentiveness		
	and forth between two or			
	more activities or sources			
	of information (such as			
	speech, sounds, touch, or			
	other sources).		0	0
	onici bources).			, v

Trunk Strength	The ability to use your	Physical		
	abdominal and lower back	Strength		
	muscles to support part of	Abilities		
	the body repeatedly or			
	continuously over time			
	without 'giving out' or			
	fatiguing.		0	0
Visual Color	The ability to match or	Visual		
Discrimination	detect differences between	Abilities		
	colors, including shades			
	of color and brightness.			
			3.629	3.629
Visualisation	The ability to imagine	Spatial		
	how something will look	Abilities		
	after it is moved around or			
	when its parts are moved			
	or rearranged.		0	0
Wrist-Finger	The ability to make fast,	Reaction Time		
Speed	simple, repeated	and Speed		
	movements of the fingers,	Abilities		
	hands, and wrists.		-0.738	-0.738
Written	The ability to read and	Verbal		
Comprehension	understand information	Abilities		
	and ideas presented in			
	writing.		-0.845	-0.845
Written	The ability to	Verbal		
Expression	communicate information	Abilities		
	and ideas in writing so			
	others will understand.		0	0
R Squared = 0.96			N=59723	

Table X2 UK Skills Lasso Analysis

ONET Item	Description			Coefficient
Active Learning	Understanding the	Process	Basic Skills	
	implications of new			
	information for both			
	current and future			
	problem-solving and			
	decision-making.			3.207
Active Listening	Giving full attention to	Content	Basic Skills	
_	what other people are			0

	saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.			
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	Complex Problem Solving	Cross Functional Skills	-1.933
Coordination	Adjusting actions in relation to others' actions.	Social Skills	Cross Functional Skills	-4.467
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	Process	Basic Skills	-1.821
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	Technical Skills	Cross Functional Skills	-1.532
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	Technical Skills	Cross Functional Skills	0.927
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	Technical Skills	Cross Functional Skills	-0.609
Instructing	Teaching others how to do something.	Social Skills	Cross Functional Skills	-1.512
Judgement and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	Systems Skills	Cross Functional Skills	0
Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	Systems Skills	Cross Functional Skills	-0.324
Management of Financial Resources	Determining how money will be spent to get the	Resource Management Skills	Cross functional Skills	0

	work done, and accounting for these expenditures.			
Management of Material Resources	Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do	Resource Management Skills	Cross functional Skills	
	certain work.			0
Management of	Motivating, developing,	Resource	Cross	
Personell	and directing people as	Management	functional	
Resources	they work, identifying the	Skills	Skills	
36.4	best people for the job.		D : 01 :11	0
Mathematics	Using mathematics to	Content	Basic Skills	
	solve problems.	_		0
Monitoring	Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.	Process	Basic Skills	-5.989
Negotiation		Social Skills	Cross	-3.989
Negonation	Bringing others together and trying to reconcile differences.	Social Skills	functional Skills	1.972
Operation	Watching gauges, dials, or	Technical	Cross	
Monitoring	other indicators to make sure a machine is working	Skills	Functional Skills	
	properly.			2.377
Operation and Control	Controlling operations of equipment or systems.	Technical Skills	Cross Functional	
			Skills	-0.834
Operations Analysis	Analyzing needs and product requirements to create a design.	Technical Skills	Cross Functional Skills	-0.534
Persuasion	Persuading others to change their minds or	Social Skills	Cross functional	
	behavior.		Skills	-1.766
Programming	Writing computer	Technical	Cross	
	programs for various	Skills	functional	0.550
0 11: 0 1	purposes.	m 1 ' '	Skills	-0.558
Quality Control	Conducting tests and	Technical	Cross	
Analysis	inspections of products,	Skills	functional	
	services, or processes to		Skills	
	evaluate quality or			1.525
Doodiese	performance.	Content	Dogie C1-:11-	-1.525
Reading Comprehension	Understanding written sentences and paragraphs in work related	Content	Basic Skills	
	documents.			
				0

Repairing	Repairing machines or	Technical	Cross	
	systems using the needed tools.	Skills	Functional Skills	
G :	TT ' ' 'C' 1 1		D : C1:11	0
Science	Using scientific rules and methods to solve	Content	Basic Skills	
	problems.			
		G : 1 G1 :11		0.721
Service Orientation	Actively looking for ways to help people.	Social Skills	Cross Functional	
Orientation	то пстр реорге.		Skills	0.356
Social	Being aware of others'	Social Skills	Cross	
Perceptiveness	reactions and		Functional	
	understanding why they react as they do.		Skills	0
Speaking	Talking to others to	Content	Basic Skills	
	convey information			
C	effectively.	Ct	Constant	2.306
System Analysis	Determining how a system should work and how	Systems Skills	Cross Functional	
	changes in conditions,		Skills	
	operations, and the			
	environment will affect			2.76
System	outcomes. Identifying measures or	Systems	Cross	-2.76
Evaluation	indicators of system	Skills	Functional	
	performance and the		Skills	
	actions needed to improve			
	or correct performance, relative to the goals of the			
	system.			5.182
Technology	Generating or adapting	Technical	Cross	
Design	equipment and technology	Skills	Functional Skills	2.602
Time	to serve user needs. Managing one's own time	Resource	Cross	-2.603
Management	and the time of others.	Management	Functional	
		Skills	Skills	3.48
Troubleshooting	Determining causes of	Technical	Cross	
	operating errors and deciding what to do about	Skills	Functional Skills	
	it.			1.72
Writing	Communicating	Content	Basic Skills	
	effectively in writing as			
	appropriate for the needs of the audience.			
				0
R squared = 0.80			N=	59723

Table X3 UK People, Brains, Brawn Analysis

	UK – EU LFS
People	0.006***
	(0.001)
Brains	-0.100***
	(0.001)
Brawn	0.007***
	(0.001)
People *	0.005***
Brains	
	(0.001)
People*Brawn	-0.001***
	(0.000)
Brains*Brawn	-0.003***
	(0.001)
N	59575
R Squared	13%

^{***, **, *} denotes significance at the 1%, 5% and 10% levels

respectively