



GÖTEBORGS UNIVERSITET HANDELSHÖGSKOLAN

Understanding labour hoarding

A case study of Swedish firms keeping un-needed labour

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Abstract

This thesis investigates the phenomena of labour hoarding in European countries. Labour hoarding is the retention of surplus employees and/or labour force during economic downturns and while it can stabilise labour demand, it can also lead to inefficiencies and increased labour costs. Using a GLS-regression analysis, the study examines the influence of economic variables (GDP, inflation) and Hofstede's cultural dimensions on labour hoarding practices across European member states.

Findings indicate that inflation positively correlates with both labour productivity per person employed (LPP) and per hour worked (LPH), while the chosen GDP-variable is not significant. The inclusion of cultural variables, especially indulgence, enhances the model's explanatory power. Higher indulgence levels are associated with increased labour hoarding, as countries adjust working hours instead of reducing staff.

The research offers valuable insights for policymakers to improve productivity and economic resilience in European countries.

Keywords: Labour hoarding, European Union, labour productivity, GDP, inflation, cultural dimensions, indulgence.

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1. Introduction

Labour hoarding is a phenomenon where firms retain excess labour force during periods of economic downturns, rather than laying off workers. This practice is particularly relevant in the current economic climate, where various factors such as slow economic growth and fluctuating market conditions create uncertainty for businesses. Understanding the prevalence and impact of labour hoarding is crucial for comprehending its effects on labour productivity and the overall economy (Vella, 2018)

This thesis will explore the determinants of labour productivity within European countries, focusing on the role of economic variables such as GDP and inflation (HICP), and cultural dimensions, particularly indulgence. By analysing these factors, we aim to shed light on how labour hoarding practices differ across countries and their subsequent impact on labour productivity. The thesis will also interpret the Swedish report of economic outlook from 2023, published by Confederation of Swedish Enterprise (Svenskt Näringsliv).

The main target of the thesis is to shed light on the phenomena of labour hoarding and analyse it deeper with the aim of improving labour market inefficiencies.

1.2 Background

Labour hoarding has significant implications for both the short-term and long-term performance of the labour market and the broader economy. In the short term, labour hoarding can stabilise aggregate labour demand, as firms opt to retain their workforce despite economic slowdowns. This can prevent sudden spikes in unemployment and help maintain consumer confidence and spending. However, prolonged labour hoarding during periods of sluggish economic growth can lead to inefficiencies and higher labour costs, ultimately forcing firms to lay off workers when they can no longer sustain the financial burden (Bureau of Labor Statistics, 2014).

In the context of Europe, labour hoarding is particularly relevant due to the diverse economic and cultural landscapes across countries. Differences in labour market regulations, social security systems, and cultural attitudes towards work and employment can influence the

extent and impact of labour hoarding. For instance, countries with strong social safety nets and pro-employee labour laws may experience higher levels of labour hoarding compared to those with more flexible labour markets. Furthermore, and since Sweden will be a small focus of the paper, one hypothesis is that Sweden will experience a higher degree of labour hoarding than other countries due to the strong presence of pro-employee structures like unions and collective bargaining agreements.

Moreover, labour hoarding is a form of labour underutilisation, which can negatively affect productivity growth. Firms that hoard labour may not be utilising their workforce efficiently, leading to lower output per worker. This inefficiency can be compounded if labour hoarding exacerbates labour market shortages, thereby increasing employees' wage bargaining power and driving up wages. Higher unit labour costs can, in turn, fuel inflation and risk triggering a wage-price spiral, complicating efforts to manage inflation and stabilise the economy

The phenomenon of labour hoarding can also be observed globally, particularly in the relationship between fluctuations in production and labour productivity. During economic downturns, if employment levels remain relatively stable while production decreases, labour productivity falls (Radlinska et al, 2020). Conversely, during economic recoveries, productivity tends to rise as production increases without a proportional increase in employment. This cyclical pattern highlights the importance of understanding labour hoarding practices and their implications for economic policy.

Furthermore, the labour market inefficiencies that labour hoarding brings, may affect certain groups in a systematic way. One hypothetical reason for labour hoarding is the employers' lack of required competence on the labour market (Svenskt Näringsliv). This leads to employers hoarding labour, especially in recessions, and may hinder the chances of new graduates and other junior employees to access the labour market. Similarly, other groups and individuals could struggle to land jobs, especially in economic downturns.

Given the significant impact of labour hoarding on labour productivity and economic stability, it is essential to explore its determinants and effects comprehensively. This thesis builds on the work of Radlinska et al. (2020), who examined the relationship between labour

productivity and GDP using Pearson's correlation coefficient. By incorporating additional variables such as inflation and cultural dimensions, the aim is to provide a more nuanced understanding of labour hoarding in Europe.

2. Theoretical Framework

This section will introduce the theoretical framework of the thesis. The chapter will contain theories regarding labour hoarding in Sweden and serves as the backbone of the research. The theoretical framework is composed of different yet interrelated theoretical branches.

2.1 Culture

This section concerns the theory of culture. The culture of a nation has shown to be a strong influence on the industrial landscape of a country. Therefore, cultural aspects would certainly play a significant role in strategic decision-making of the businesses in that particular country (Selnes, 1996; Hofstede et al., 2010). To exemplify this, one could look at a stereotypical Swedish personality trait and see if the same trait can be found in an industrial setting. A very stereotypical personality trait in Swedes is “conflict avoidance”, which is also highlighted by an online Swedish travel guide (Kamann, 2016). In 2010 the insurance company Moderna conducted a Nordic study which showed that barely 50% of Swedes dare to speak their opinions at work. The same share of Swedes would also not intervene in the event of a work-related conflict¹.

In a survey published from 2023 by “Ledarna”, the managers union in Sweden, in response to the question of whether managers must address other people's personal problems in their work, half of the respondents stated that this is always or often the case. A significantly higher proportion, compared to the total, of women in the public sector (67%), managers in the public sector (62%), and managers up to and including 44 years of age (56%) answered always or often (Ledarna, 2023). In 2011, the same organisation also stated that 40% of managers don't have the time to deal with conflicts nor employee performance reviews (Ledarna, 2011).

¹<https://chef.se/konfliktraedslan-stoerst-i-sverige/#:~:text=Svenskar%20anklagas%20ofta%20f%C3%B6r%20att%20nordisk%20unders%C3%B6kning%20fr%C3%A5n%20f%C3%B6rs%C3%A4kringsbolaget%20Moderna.>

To understand more about Swedish culture, Hofstede's Cultural Dimensions is a tool that can elaborate and specify cultural differences between nations.

2.1.1 Hofstede's Cultural dimensions

In the field of science, specific assumptions known as paradigms often hold sway over a particular scientific discipline (Hofstede et al., 2010). One such paradigm was introduced by researcher Geert Hofstede in 1980. His pioneering approach aimed at quantifying national cultures, striving to create a cross-national model for comparing and defining these cultures. This inspiration stemmed from earlier studies by social scientists, who sought to pinpoint universal challenges across societies through empirical research and statistical analysis. These studies identified issues deemed fundamental and widespread, impacting the functioning of societies, groups, or individuals within those societies. Building on this foundation, Hofstede (1980) conducted a study within the multinational corporation IBM. His empirical findings aligned with previous research, solidifying Hofstede's cultural dimensions. The original amount of dimensions were four, which in modern times have been extended to six. All six dimensions are ranked in indexes, which simplifies comparisons between countries.

2.1.1.1 Power Distance

Power distance is defined as *“the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally”* (Hofstede et al., 2010, p. 61) and is the first dimension. This dimension is measured by a thruple of questions from which participants express how they handle inequality. In essence, this dimension highlights the close relationship between the reality one perceives and the reality one desires (Hofstede et al., 2010, p. 60). When analysing the findings regarding power distance, individuals within a business culture characterised by low power distance tend to prefer an active role in decision-making, exhibit limited reliance on superiors and prefer minimal emotional distance between themselves and superiors,. It is generally acceptable behaviour to challenge and question one's superior in this context. Conversely, in business cultures marked by higher power distance values, employees and superiors perceive each other as unequal, resulting in a greater emotional distance between them. In such environments, challenging or questioning one's superior is often seen as inappropriate behaviour. Additionally, there is an expectation of greater dependence on superiors, and

employees typically have less involvement in the decision-making process. Sweden ranked number 70 on the scale with a PDI of 31.

To understand that “nation” is not to be confused with being synonymous with “culture” in this context, communities in multilingual countries scored significantly differently. For example, the German speaking part of Switzerland had a PDI of 26 which is much closer to Austria (11) and Germany (35) than the French part of Switzerland which scored a PDI of 70. Switzerland's French part scored closer to France (68) and the French speakers in Belgium, with a PDI of 67.

2.1.1.2 Individualism vs Collectivism

The second dimension is the degree of how individualistic or collectivistic a society is.

Individualistic societies are those in “*which the ties between individuals are loose: everyone is expected to look after him- or herself and his or her immediate family.*” (Hofstede et al., 2010, p. 92). While the opposite are collectivistic societies where “*people from birth onward are integrated into strong, cohesive in-groups, which throughout people’s lifetime continue to protect them in exchange for unquestioning loyalty*” (Hofstede et al., 2010, p. 92).

Individualistic cultures value a work/life balance and have centres around freedom at work and independence. In contrast, collectivistic cultures focus on the group, and relationships tend to be more important when engaging in business than in individualistic cultures. In this book, Hofstede exemplifies the difference between individualistic and collectivistic business cultures by highlighting a deal between a Saudi and a Swedish business almost falling through due to the discrepancy in values. The Saudi firm met with a representative from the Swedish firm and for a period of two years they met six times but very seldom talked business. When a deal was to be made, the Swede had gotten a promotion and was no longer in charge of the Saudi deal. This caused the Saudis to threaten to walk out of the deal without the original representative and the Swedish firm was forced to restructure the company with the original manager in charge of this particular deal (Hofstede et al., 2010, p. 90).

2.1.1.3 Masculinity vs Femininity

The third dimension of culture is the masculine vs the feminine. Men and women are distinct biologically and these differences remain the same all around the world. However, the social roles of the genders are not fully determined by biology, and cultures acknowledge certain mannerisms to be more suitable for males or females. But what gender one possesses does

not equal one's mannerisms. Males and females can have both masculine and feminine demeanors and which behaviours belong to either gender, differs from one society to another. A masculine society is a society where *emotional gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life* (Hofstede et al., 2010, p. 140). Where as a society is called feminine *when emotional gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life* (Hofstede et al., 2010, p. 140). In masculine business cultures, members tend to prioritise systematic and analytical approach, and cherish competitiveness, toughness and directness. Moreover, masculine business cultures are typically characterised by impulsivity and a disregard for politeness and friendliness. Lastly, masculine cultures define the management as generally being aggressive and resolute. Conversely, feminine business cultures are relationship oriented, value a work/life balance, prioritise softer values such as courtesy and friendliness. They also prefer solving conflicts by compromising. Additionally, feminine business cultures have a limited focus on analytical approaches, directness and toughness, and managerial decisions are consensus based. Some key characteristics in the workplace for feminine cultures are that rewards are based on equality and conflicts are resolved by compromise and negotiation. In masculine cultures however, the strongest usually wins conflicts and rewards are based more on equity. Sweden scored the lowest on the masculinity index of all 76 participating countries, with a score of 5

2.1.1.4 Uncertainty Avoidance

The fourth dimension can be defined as *“the extent of which the members of a culture feel threatened by ambiguous or unknown situations”* (Hofstede et al., 2010, p. 191). In a business setting, cultures characterised by weaker uncertainty avoidance tend to be more inclined to experiment and are considered flexible with a capability of adapting to given situations. Moreover, business cultures characterised by weaker uncertainty avoidance tend to focus less on formalities. On the other hand, a stronger uncertainty avoidance results in members of that culture shying away from the unknown and are less flexible. They also value formalities and analytical skills. Sweden ranked 72nd in uncertainty avoidance with a score of 29.

2.1.1.5 Long-term Orientation

The fifth dimension is defined as *“the fostering of virtues oriented toward future rewards—in particular, perseverance and thrift. Its opposite pole, short-term orientation, stands for the fostering of virtues related to the past and present—in particular, respect for tradition, preservation of “face,” and fulfilling social obligations”*” (Hofstede et al., 2010, p. 239). Long-term oriented cultures are essentially more dynamic. Highly valued traits are accountability, effectiveness and in business, work values include learning, honesty and adaptiveness. (Hofstede et al., 2010, p. 251). In contrast, short-term oriented cultures are less willing to sacrifice present-day comfort for the sake of the future and work values include freedom and thinking for oneself. This effectively makes short-term cultures more static. Swedens’ long-term score was 53, which ranked 38 out of 76 countries.

2.1.1.6 Indulgence vs Restraint

The sixth and last dimension is indulgence vs restraint. Indulgence is characterised by tendencies *“to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun”* (Hofstede et al., 2010, p. 281). While restraint reflects a *“conviction that such gratification needs to be curbed and regulated by strict social norms* (Hofstede et al., 2010, p. 281). There have been limited studies on this dimension, but a paper studying financial corporate performance on Jordanian companies suggests that there is some significant and positive correlation between return on equity and restraint in the country (Aleqdat et al., 2022). Furthermore it is important to know that Jordan has a culture characterised as somewhat restraining, with a score of 43 (Hofstede et al., 2010, p. 283). Sweden was the most indulgent country in Europe and registered a score of 78.

2.1.2 Critique of Hofstede’s Cultural Dimensions

Hofstede’s model on national cultures has elicited ambivalent reactions since its emergence and the criticism is both of individual dimensions (Eringa et al., 2015; Schmitz & Weber, 2014 etc.) as well as the model as a whole (Jones 2007). Adversaries suggest, among other things, that a survey is an insufficient instrument to accurately determine and measure cultural discrepancies. Additionally, they also point out the notion of cultures scattering across multiple nations which makes Hofstede’s use of “national culture” an unsuitable parameter (Jones, 2007). Furthermore, the survey used by Hofstede dates back to the 1980’s, which one could argue makes the observations outdated.

Nevertheless, Hofstede directly confronted this specific critique by asserting that his observations stemmed from centuries of ingrained cultural influences, thereby suggesting that they remain relevant and contemporary for the foreseeable future. For this paper, Hofstede's model is not to be reviewed as hard facts but rather as a tool and framework.

2.2 Report of Swedish Report of Economic Outlook 2023/24

The Confederation of Swedish Enterprise (Svenskt Näringsliv in Swedish) began presenting a labour hoarding indicator in April of 2023. In the report of economic outlook for 2023, it could be determined that the aggregate prevalence of labour hoarding in firms participating in the surveys was 23% in Q3 and 29% in Q4. It is important to know that Svenskt Näringsliv specifically asked the question; *“Does your company currently have more employees than what your operations require in the short term?”* - short term defined as 0-12 months from now (Svenskt Näringsliv, 2023). Labour hoarding occurred in all sectors but was most frequent in tourism where 43% of participating organisations in that sector engaged in labour hoarding in Q4 2023. The lowest occurrence in that same period was in “service” where 19% of organisations admitted to labour hoarding. In the report, two reasons are claimed to be the reason for labour hoarding at this moment in time. Firstly, many companies vividly recall the pandemic. Having laid off staff at that time, numerous industries now struggled to reacquire expertise. Chefs serve as a clear example from the restaurant sector of a type of position where recruitment needs are now significant and skill shortages are increasing. The post-pandemic experiences thus leave their mark on how companies today choose to retain their personnel. Secondly, when attempting to determine the appropriate level of their workforce, companies take into account the economic outlook. Since initial indicators suggested a modest economic downturn and forecasters anticipated challenges related to higher interest rates and inflation would be limited, Swedish firms were expecting a so-called “soft landing”. This led many companies to choose to stay put and engage labour hoarding. In other words, they retain some staff even though current demand for the company's products does not necessitate it.

The report also asserts that Sweden is facing a significant challenge of inadequate skills and mismatches in its labour market. Due to the uncertain nature of the soft landing forecast, an extended economic downturn would compel numerous Swedish organisations to lay off their employees. The existing high levels of labour hoarding would present a disadvantageous position for overall labour market progress if economic forecasts prove to be more negative than anticipated by forecasters and companies.

3. Literature Review

In an article by Radlińska et al from 2020 in Journal of Business Economics and Management, the authors studied the phenomena of labour hoarding in European countries between the years 1996 and 2016. In their study, the authors chose to use Pearson's linear correlation coefficient to investigate the relationship between real GDP and labour hoarding. Furthermore, the authors selected to divide labour hoarding in two different parameters; Labour productivity per person (LPP) and per hour (LPH). The definition of LPP was given as *“the ratio of production to the number of employees, while (LPH) was calculated as the production per hour of work”* (Radlinska et al. 2020, p. 878).

The study concluded that there was a positive correlation between the real GDP growth rate and the growth in labour productivity per person (LPP) and labour productivity per hour (LPH) employment in all European countries from 1996 to 2016. This suggests the presence of labour hoarding, both in terms of the quantity of employees and the number of hours worked. The overall range of correlation between real GDP and LPP was 0.5468 in Latvia to 0.9447 in Italy. In eight European countries (Austria, Finland, Germany, Italy, Luxembourg, Malta, Sweden, the United Kingdom), there was a notably strong correlation between the real GDP growth and the growth in labour productivity per person (LPP) where Pearson's coefficient was stronger than 0.9. In contrast, in five countries—Cyprus, Greece, Latvia, Portugal, and Romania—the correlation coefficients reached the lowest levels ($0.5 \leq r \leq 0.7$). This could imply that enterprises in these countries partially utilise the employment adjustment mechanism throughout the business cycle. However, the rate of change in the number of employees lags behind production changes, indicating a moderate degree of labour hoarding in the labour market.

The correlation between real GDP growth and labour productivity per hour (LPH) growth generally exhibited lower values compared to the correlation between real GDP growth and LPP growth. These values ranged from 0.2495 in Portugal to 0.8464 in Luxembourg. Only in seven European countries (Germany, Ireland, Lithuania, Luxembourg, Malta, Slovakia, and Great Britain) was this correlation stronger than 0.7, suggesting that labour was hoarded and that working hours in the business cycle were adjusted to some extent. . In Sweden, the coefficient between real GDP and LPP was 0.9041, while it was 0.6864 with LPH,

The collective findings gave significance to the prevalence of labour hoarding throughout the analysed period in European countries. The higher correlation and stronger overall presence of the correlation of real GDP and LPP compared to LPH is another way of saying that there is a noticeable delay in the adjustments of employee numbers compared to the adjustments of working hours. The institutional factors influencing the labour market varied between countries, impacting adjustment mechanisms differently. Western European countries, like Austria, Belgium and France, exhibited the highest pro-cyclicality in changes in labour productivity per person and pro-cyclical changes in hourly productivity. These countries are characterised by strong protectionist measures aimed at job preservation, incentives for flexible employment arrangements, wage subsidies, and active trade union involvement, which were the contributions to the restricted adjustment of employment to fluctuations in real production (Radlinska et al. 2020, p. 881).

Conversely, Southern European countries like Cyprus, Greece and Portugal, exhibited the most pronounced adaptation of employment to volume changes, both in terms of labour productivity per person and labour productivity per hour. Labour hoarding was a less significant adjustment mechanism in these countries, particularly concerning working hours. The implementation of flexible working hours and the seasonal nature of employment in these regions led to nearly immediate adjustments in employment in response to changes in production volume. Correlation coefficients between the real GDP growth rate and changes in LPH productivity indicated a weak relationship.

The authors of this article also suggest culture and history could be a variable in how labour hoarding is prevalent in different European countries and highlight the discrepancy in labour dynamics between Eastern and Central Europe.

4. Data and method

This section outlines the data included in this paper, aiming to make the presented information comprehensive. Most data is sourced from Eurostat. The study "labour hoarding: an old phenomena in modern times? Case study for European countries" includes labour productivity parameters from 1996 to 2016; therefore, this thesis uses LPP and LPH data from 2013 to 2023. Data from 30 European nations (appendix attached) will be compared to Hofstede's cultural dimensions to explore potential relationships.

Additionally, the parameter of aggregated output, specifically the delta in real GDP from the previous period, will be analysed. For example, Sweden shows a 1.0% change in 2019 and -2.9% in 2020, reflecting the impact of the COVID-19 pandemic. An inflation indicator, the Harmonized Index of Consumer Prices (HICP), which measures inflation across Europe and aligns with the ECB's 2% target², is also included.

To examine if labour productivity in terms of hours worked and persons employed can be explained by cultural factors, the latest Hofstede's cultural dimensions are incorporated into a regression analysis. The cultural data is indexed and originates from Geert Hofstede's own website. Previous studies have investigated the correlation between labour productivity and GDP. This thesis will perform panel regressions on LPP and LPH data: the first including HICP and GDP, and the second incorporating cultural variables. All the data presented has been collected from 30 European countries, with the yearly data from 2013-2023. Since an assumption is that culture does not experience major changes from year to year, the cultural variables are constant.

The program Stata has been used to run these regressions. In order to capture both the yearly differences and country-id, the regressions are random-effects GLS models and have a confidence level of 95%

² <https://www.ecb.europa.eu/mopo/strategy/pricestab/html/index.en.html>

The method used is a GLS-regression done on panel data. The choice of regression is due to the fact that it cannot be determined that none of the independent variables chosen experience auto-correlation. A GLS-regression is therefore the better options³.

4.1 Delimitations and estimates

Due to lack of data, this thesis has been forced to exclude a handful of European countries from being included. Countries like Cyprus and the UK etc. were missing data points of both cultural and economic standards, which excluded them from the regressions in order to receive as accurate results as possible. Furthermore, a pair of countries had no data of LPP or LPH from 2023, which was handled by plotting the mean value from previous years.

³[https://timeseriesreasoning.com/contents/generalized-least-squares/#:~:text=Generalized%20Least%20Squares%20\(GLS\)%20estimation,and%20For%20auto%20correlation](https://timeseriesreasoning.com/contents/generalized-least-squares/#:~:text=Generalized%20Least%20Squares%20(GLS)%20estimation,and%20For%20auto%20correlation).

5. Results

The first regression ran did not contain any cultural variables. This was done as a continuation of the study by Radlinska et al (2020), who only used Pearson's correlations coefficient to examine relationships between labour productivity and GDP. The initial regression had LPP as the dependent variable while only using HICP and GDP as independent variables. The results can be observed in this table.

Table 1

LPP	Coefficient	Std err	z	P> z	95% LCL	95% UCL
GDP	0.1008	0.1325	0.76	0.447	-0.1589	0.3604
HICP	0.4311	0.1344	3.21	0.001	0.1677	0.6945
Rho	0.9208					

From the regression, it can be determined that the GDP parameter chosen in this thesis is not statistically significant. However, the parameter of inflation, HICP, has a positive and statistically significant effect on LPP (p-value < 0.05). A unit increase in HICP is associated with a 0.4311 increase in LPP. This suggests that labour productivity in people employed has a positive correlation with inflation in Europe. In contrast, it can be observed by the raw data from Eurostat that LPP has dropped in the last few years as inflation has been rising, which suggests other factors are present in explaining labour productivity.

Table 2

LPH	Coefficient	Std err	z	P> z	95% LCL	95% UCL
GDP	0.138	0.1482	0.93	0.352	-0.1525	0.4284
HICP	0.411	0.1503	2.73	0.006	0.1163	0.7056
Rho	0.9288					

Table 2 shows an identical regression but with LPH as the dependent variable. The results were very similar to the initial LPP-regression. GDP has a positive but not statistically significant effect on LPH, while HCIP has a statistically significant effect on it. One unit increase in HCIP is associated with a 0.411 increase in LPH. This is a similar but slightly lower coefficient than HCIP and LPP. Rho, R-square and other variables had insignificant discrepancies. Which means that the regression containing the cultural variables were run.

Table 3

LPP	Coefficient	Std err	z	P> z	95% LCL	95% UCL
GDP	0.110	0.137	0.8	0.447	-0.158	0.378
HICP	0.442	0.136	3.24	0.001	0.175	0.710
PD	-0.201	0.286	-0.70	0.482	-0.761	0.360
Indv	0.336	0.342	0.98	0.326	-0.334	1.006
Masc	0.229	0.171	1.34	0.179	-0.105	0.564
Uncert	-0.220	0.252	-0.87	0.382	-0.713	0.273
Longterm	-0.217	0.289	-0.75	0.453	-0.782	0.349
Indulgence	0.770	0.280	2.76	0.006	0.223	1.32
Rho	0.8719					

With the cultural variables included, the appearance of the regression alters. Table 3 shows an LPP regression. HICP has a positive and statistically significant effect on LPP where one unit increase in HICP is associated with a 0.442 increase in LPP. Consequently, GDP does not have a statistically significant effect. The cultural variables were not statistically significant either, except for Indulgence. Indulgence is significant ($P < 0.05$) and one unit increase in indulgence is associated with a 0.770 increase in LPP. From this information, one can presume that labour hoarding is more prevalent in indulgent countries. In Hofstede's dimension matrix, among the most indulgent countries are Sweden, Malta and the Netherlands, which all had a correlation of $0.9 <$ (Radlinska et al.).

Lastly, the rho-variable shows that approximately 87.19% of the variance in LPP is due to differences across countries, meaning that the indulgence variable did indeed succeed to capture effects on LPP.

Table 4

LPH	Coefficient	Std err	z	P> z	95% LCL	95% UCL
GDP	0.151	0.152	0.99	0.322	-0.148	0.450
HICP	0.423	0.152	2.82	0.005	0.131	0.727
PD	-0.201	0.330	-0.62	0.534	-0.853	0.442
Indv	0.324	0.395	0.82	0.412	-0.451	1.100
Masc	0.175	0.197	0.89	0.375	-0.212	0.562
Uncert	-0.357	0.291	-1.23	0.220	-0.927	0.213
Longterm	-0.046	0.334	-0.14	0.890	-0.700	0.608
Indulgence	1.00	0.324	3.09	0.153	0.366	1.64
Rho	0.9288					

The final regression, Table 4, uses LPH as the dependent variable and has the highest R-square value of all. In addition to the previous ones, HICP has a positive and statistically significant effect on LPH in this model too. Indulgence is also the only cultural variable of statistical significance. Indulgence has a positive and statistically significant effect on LPH where one unit increase in indulgence is associated with a 1.00 increase in LPH. This is a further indicator to the occurrence of labour hoarding in societies of high indulgence. According to this regression model, these countries tend to hoard staff and adjust their working hours rather than laying them off, which corresponds with the lower dGDP vs LPH correlation in Sweden for example (Radlinska et al, 2020, p. 881). A final note is that Sweden had the highest score of indulgence and since this cultural aspect did have a significant effect on both LPP and LPH, the hypothesis presented in the introduction could have some truth to it.

6. Discussion

Properly gauging the prevalence of labour hoarding in the European economy is highly relevant at the current juncture. Labour hoarding stabilises aggregate labour demand, which can be beneficial in the short term. However, prolonged labour hoarding in the face of

sluggish growth increases the likelihood that firms will eventually run out of steam and be forced to lay off workers. Thus, entrenched labour hoarding could pose a downward risk for the future performance of the labour market.

Furthermore, labour hoarding is a form of labour underutilization, negatively affecting productivity growth. Simultaneously, by exacerbating labour market shortages, it strengthens employees' wage bargaining power, leading to upward pressure on wages. This rise in unit labour costs risks fueling inflation and could trigger a wage-price spiral.

A high amount of labour hoarding could negatively impact labour productivity. It may reduce the rate of job creation and job liquidation, prolong the duration of unemployment, and make it difficult for people in strenuous labour market situations—such as newly examined students, young people, or immigrants—to gain employment. It can also be argued that these are people affected the most by sluggish economic cycles, which furthers struggles for these groups. The Confederation of Swedish Enterprise are in their quarterly survey only asking companies if they have excess staff members. In contrast, members could have the option of also answering questions on if adjustments in hours worked per employee can, or have had a positive impact, which could result in more dynamic data of labour hoarding in Sweden. Even though culture, GDP and inflation can explain parts of the labour hoarding phenomena, the lack of full comprehension will prolong this labour market inefficiency. More studies need to be done to fully grasp what more among these countries propel them to hoard labour. As mentioned, strong safety net and pro-employee laws or policies like unions and collective bargaining agreements could be more prevalent in indulgent societies and therefore contribute to labour hoarding in times of sluggish economies.

7. Conclusion

This thesis aimed to investigate the determinants of labour productivity in European countries, with a particular focus on the roles of GDP, inflation (HICP), and cultural variables, including indulgence. The initial regressions replicated the approach by Radlinska et al., who examined the relationship between labour productivity and GDP using Pearson's correlation coefficient.

The first set of regressions used LPP (labour productivity per person employed) and LPH (labour productivity per hour worked) as dependent variables, with GDP and HICP as independent variables. The results revealed that GDP was not a statistically significant predictor of labour productivity in either model. However, HICP had a positive and statistically significant effect on both LPP and LPH, suggesting a positive correlation between inflation and labour productivity in Europe.

Interestingly, despite the positive correlation between HICP and labour productivity, raw data from Eurostat indicated that LPP has declined in recent years as inflation has risen. This discrepancy suggests the presence of additional factors influencing labour productivity. Furthermore, the overall R-squared values for these initial models were low (0.0084 for LPP and similarly low for LPH), indicating that a minimal portion of the variation in labour productivity was explained by GDP and HICP alone. The rho values, approximately 92.07% for LPP and similarly high for LPH, suggested that most of the variance in labour productivity was due to differences across countries.

Subsequent regressions incorporated cultural variables into the model, significantly altering the results. The inclusion of cultural dimensions improved the explanatory power of the models substantially. For the LPP regression, the overall R-squared increased to 0.5748, indicating that 57.48% of the variation in labour productivity was explained by the model. Similarly, for the LPH regression, the R-squared increased to 0.6003, explaining 60.03% of the variation. Among the cultural variables, indulgence emerged as the only statistically significant factor. In the LPP regression, a one-unit increase in indulgence was associated with a 0.7721 increase in labour productivity per person employed. In the LPH regression, a one-unit increase in indulgence was associated with a 1.0008 increase in labour productivity per hour worked. These findings suggest that labour hoarding is more prevalent in indulgent societies, where companies are more likely to retain staff and adjust working hours rather than resort to layoffs. This behaviour aligns with observations in highly indulgent countries such as Sweden, Malta, and the Netherlands.

The high rho values in the final models (87.19% for LPP and similarly high for LPH) indicate that the variance in labour productivity is still largely due to differences across countries. However, the significant role of indulgence in explaining within-country variation highlights the importance of cultural factors in shaping labour market dynamics.

In conclusion, this thesis underscores the complex interplay between economic and cultural factors in determining labour productivity. While inflation positively impacts productivity, the inclusion of cultural variables, particularly indulgence, provides a more comprehensive understanding of labour market behaviours in Europe. These insights have important implications for policymakers aiming to enhance productivity and manage labour market stability in diverse economic and cultural contexts.

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Appendix

Countries included in the sample:

Name

Belgium

Bulgaria

Czechia

Denmark

Germany

Estonia

Ireland

Greece

Spain

France

Croatia

Italy

Latvia
Lithuania
Luxembourg
Hungary
Malta
Netherlands
Austria
Poland
Portugal
Romania
Slovenia
Slovakia
Finland
Sweden
Iceland
Norway
Switzerland
Serbia