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Policy Changes in the Swedish Payroll Tax Rate:  
*Implications for Youth Unemployment*

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# Policy Changes in the Swedish Payroll Tax Rate: *Implications for Youth Unemployment*

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## **Abstract**

*In 2007 and 2009 the Swedish payroll tax rates decreased for employees under the age of 26 years. The decrease partly discontinued in 2015 and will be completely taken away in June 2016, increasing the wage costs for those employing young workers. Earlier studies suggest that a decrease in tax rates that cover a large group has small effects that do not justify the costs of such an investment. However, some theories and studies imply that changes in payroll tax rates that go in the other direction would have negative effects on both firms and employment rates that exceed the positive effects of a decrease, due to rigid wages downwardly and companies adjusting to cheaper work force. This study investigates the possible negative employment effects on the subgroup young foreign-born as well as whether retail firms will decrease working hours of young in general due to increased tax expenditure, using a survey distributed to organizational representatives in such firms. After taking low response rates and the possibility of skewed results into consideration, some negative effects on employment were found.*

*Keywords:* payroll tax, asymmetric effects on labor, employment rate, foreign-born, retail industry.

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## TABLE OF CONTENTS

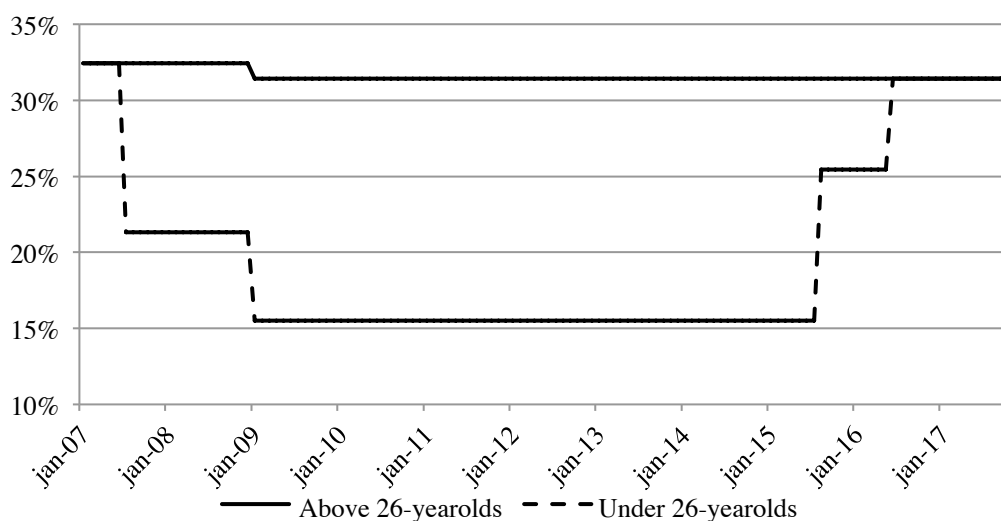
<b>I. INTRODUCTION</b>	<b>5</b>
<b>II. A REVIEW OF PAST RESULTS</b>	<b>7</b>
<i>A. IMPACT ON THE EMPLOYMENT RATE.</i>	<b>7</b>
<i>B. LABOR DEMAND.</i>	<b>8</b>
<i>C. EFFECTS ON THE SUBGROUP FOREIGN-BORN.</i>	<b>8</b>
<i>D. THE RETAIL INDUSTRY.</i>	<b>10</b>
<i>E. FURTHER IMPLICATIONS OF AN INCREASE IN THE PAYROLL TAX RATE.</i>	<b>10</b>
<b>III. HYPOTHESES</b>	<b>11</b>
<b>IV. DATA AND METHOD</b>	<b>12</b>
<i>A. SURVEY.</i>	<b>12</b>
<i>B. DATA ANALYSIS OF HYPOTHESES</i>	<b>13</b>
<i>C. FURTHER EXPLORATION</i>	<b>14</b>
<i>D. SAMPLING AND DISTRIBUTION OF QUESTIONNAIRE.</i>	<b>15</b>
<i>E. ANALYSIS OF NON-RESPONSES.</i>	<b>16</b>
<b>V. RESULTS</b>	<b>18</b>
<i>A. HYPOTHESIS I: IMPACT ON THE SUBGROUP FOREIGN-BORN.</i>	<b>20</b>
<i>B. HYPOTHESIS II: IMPACT ON YOUTH EMPLOYMENT.</i>	<b>22</b>
<i>C. FURTHER RESULTS FROM THE SURVEY.</i>	<b>24</b>
<b>VI. DISCUSSION</b>	<b>24</b>
<i>A. HYPOTHESIS I: EFFECTS ON THE SUBGROUP FOREIGN-BORN.</i>	<b>25</b>
<i>B. HYPOTHESIS II: EFFECTS ON YOUTH UNEMPLOYMENT.</i>	<b>26</b>
<i>C. FURTHER LIMITATIONS</i>	<b>27</b>
<b>VII. CONCLUSION</b>	<b>28</b>
<b>REFERENCES</b>	<b>30</b>
<b>APPENDIX A</b>	<b>33</b>
<b>APPENDIX B</b>	<b>39</b>

## I. Introduction

A presently much-debated issue in the countries of Europe is the challenges that follow the inflow of refugees from war-affected regions in other parts of the world, where one of the main focus questions in the debate is that of integration. Since long term unemployment risk social exclusion, especially for foreign-born youths (Blossfeld Klijzing, Mills, & Kurz, 2006; Malmberg-Heimonen & Julkunen, 2006; O'Higgins, 2001), reducing unemployment for this group play an important part of integration. A related challenge for European countries is the reduction of unemployment rates for young employees in general, which are consistently high (OECD 2016). At the same time, due to its ineffectiveness, the policy of lower payroll tax rates for young employees in Sweden will discontinue in June 2016, which according to Daunfeldt & Hortlund (2014) could imply higher unemployment rates for this age group. This paper will therefore examine whether the discontinuation of the payroll tax decrease for youths suggest larger difficulties for young foreign-born to enter the Swedish labor market. Moreover, our paper also investigates whether the young workforce in general will be affected negatively.

The reforms that were implemented in Sweden in 2007 and 2009 were enforced to stimulate the labor market for youths. Sweden led by the Swedish conservative party decreased the payroll tax for young employees, as an incentive for businesses to hire that group to a greater extent. Since the payroll tax is proportional to the employees' wage and is covered by the employer (The Swedish Tax Office), a decrease would imply a relatively cheaper cost of young labor.

**Figure I: The payroll tax reductions and increases**



Note: Data from the Swedish Tax Office, own adaptation.

As presented in Figure I, the 1<sup>st</sup> of July 2007 the first decrease in the payroll tax gained legal force, cutting the tax from 32.42 to 21.32 percent for employees between the ages of 19 and 25. The second decrease in the pay roll tax was enforced on 1 January 2009; when it was cut from 21.32 to 15.52 percent. At this point the lower threshold was even removed and the upper threshold was increased to the age of 26 years. The Swedish Social Democratic Party and the Green Party are now leading government and in line with the research conducted after the reform the payroll tax for youths was increased from 15.52 percent to 25.46 percent in August 2015 and will increase from 25.46 to the general payroll tax rate of 31.42 percent June 2016 (Swedish Tax Office 2016).

The research conducted after the implementation of the policy changes of 2007 and 2009 show that there were only modest employment effects at a large government cost (Egebark & Kaunitz 2014). Any empirical research on employment effects from an increase in the payroll tax in Sweden have yet to be conducted, however, Kramarz and Philippon (2001) present evidence from the French labor market that higher wage costs leads to an increase in the probability of transiting from employment to non-employment. The question then follows – will the Swedish labor market show similar tendencies?

This paper considers the employment effects from the discontinuation of the Swedish payroll tax for youths. Since the payroll tax rate change is not fully implemented until June 2016, no data of employment effects were accessible. Therefore we gathered data from employers by surveying representatives from the firms, in order to examine the implications from the payroll tax increase. The specific target population consisted of small retail companies, which according to Skedinger (2014) would be more sensitive to changes in the cost of young labor due to the small profit margins common for this industry. Furthermore, the retail industry is the largest employer of young in Sweden (Swedish Trade 2016), and therefore has an important function introducing both native and foreign-born young employees to the labor market (SCB 2014). Moreover, since the ongoing war in the Middle East has led to an increased amount of refugees seeking asylum in Sweden, the foreign-born employment rate in the retail industry was a measure of interest.

Our findings imply that young foreign-born are less likely to get employment by small retail companies when the pay roll tax is 31 percent compared to when the pay roll tax is 15 percent. Furthermore, our results suggest that the small retail companies' young workforce is

decreasing as an effect of the increase in the payroll tax for youths. These findings are consistent with Kramarz & Philippons (2001) study on the French labor market.

This paper continues as follows. Section II provides a review of past results, where possible implications from changes in the payroll tax rate are presented. Here both decreases and increases in the same tax are accounted for. Section III presents the hypotheses and section IV provides information regarding the methods used and the data gathering process. In section V the results from the estimates are presented as well as a brief explanation of the variables used. Furthermore, discussion on the thesis will be provided in section VI and section VII concludes.

## **II. A Review of Past Results**

In this section previous research is accounted for. The general implications on the employment rate and labor demand are first described. Furthermore, the impact on foreign-born and retail businesses' are presented in the latter part as well as research on the asymmetric effects from changes in the payroll tax.

### *A. Impact on the Employment Rate.*

In economic theory the effect of payroll taxes on employment rates depends on to which degree the tax is relocated from the employers to the employees. If the wages were affected to a full degree by the payroll tax, which means that the decrease in the payroll tax is the same as the increase in wages by percentage terms, the employment effect is zero. If wages were not affected by a decrease in the payroll tax, the wage costs for companies would decrease. This would lead to an increase in labor demand and most likely a higher employment rate (Skedinger 2014). This reasoning can also be applied to an increase in the payroll tax, where a negative employment effect will occur if wages are not decreased by the same percentage terms as an increase in the payroll tax (Daunfeldt & Hortlund 2014). According to Holmlund and Kolm (1998) there is reason to be skeptical about the opportunities to achieve employment effects through general tax reductions. On the other hand, increases in the minimum wage costs have shown negative effects on the employment rate (Kramarz & Philippon 2001).

The literature available concerning payroll taxes are in most cases describing the effects of a decrease in the tax. Studies on payroll tax reductions in specific regions in Sweden and Finland such as Korkeamäki (2011) and Bennmarker, Mellander and Öckert (2009), find no impact on employment rates. Egebark and Kaunitz (2014) examine the payroll tax reduction in the short run. They report a 2.7 percent increase on the employment rate at best at the cost of SEK 1.0 to 1.6 million per job created. Skedinger (2014) on the other hand examines the effects of the reduction in the Swedish retail industry. He reports that the decrease in the payroll tax only stimulated the youth employment rate to a small, non-persistent extent. The effect for workers close to the minimum wage had a slightly higher effect, but Skedinger as well as Egebark and Kaunitz concludes that the effect is modest in relation to the decrease in government income.

#### *B. Labor Demand.*

The explanation for the modest employment effect from the decreases in the payroll tax rate for youths may be due to low labor demand. Egebark & Kaunitz (2014) discuss the effect of the high minimum wage costs as one reason for low labor demand in Sweden. Their results conclude that the minimum wage costs are still too high, even with the payroll tax reductions from 2007 and 2009 in mind. The wage cost for an employee has to at least equal the productivity of the worker, and as inexperienced and untrained workers show low productivity, no employment effect of the payroll tax reductions were found in that group (Egebark & Kaunitz 2014). As a direct effect of the discontinuation of the payroll tax decrease, the wage costs for youths will increase. Furthermore, since minimum wages in Sweden are rigid due to collective bargaining, it's unlikely that an increase in the payroll tax will be followed by a corresponding decrease in the minimum wage. Instead, as the minimum wage cost increases, the employment of minimum wage workers will likely decrease (Kramarz & Philippon 2001). For the group that has two years vocational training, Egebark and Kaunitz (2014) finds a larger impact on the employment rate from the payroll tax reduction. This means that young people with education closely related to the labor market benefited more from the decrease than untrained workers.

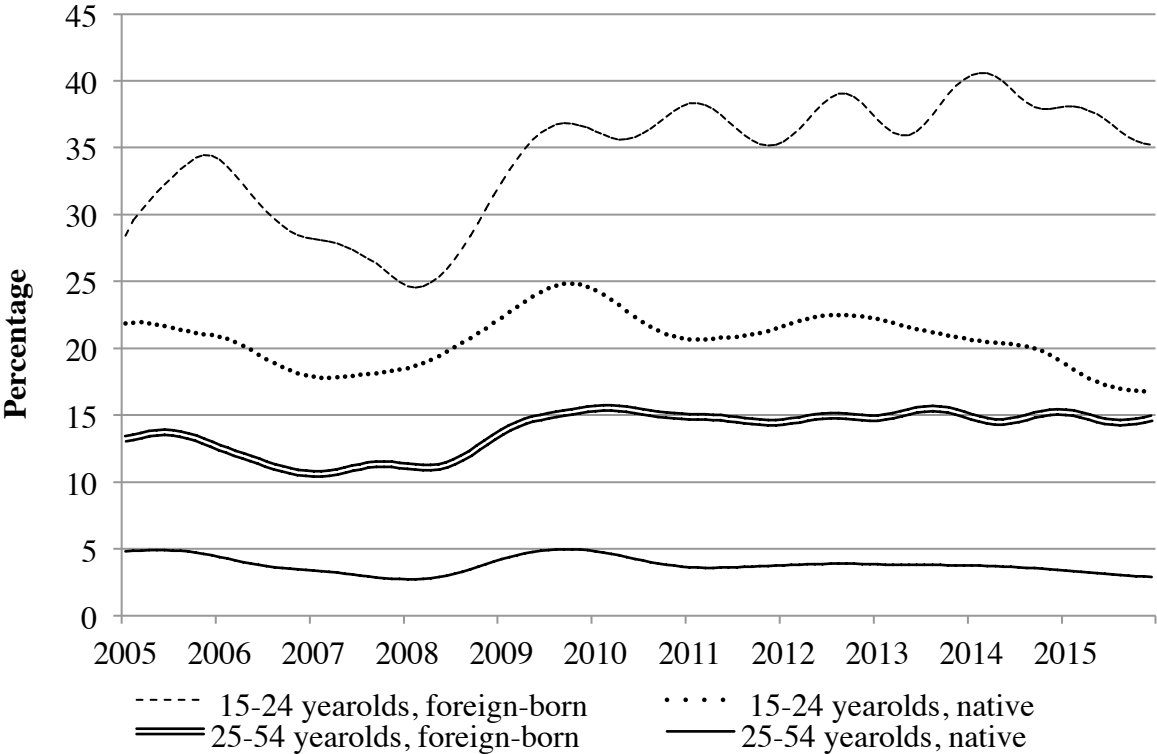
#### *C. Effects on the Subgroup Foreign-born.*

One group that has lower employment rate than other groups in society is the foreign-born. The foreign-born group sum up to be 12.4 percent of the 20 year olds and 18.3 percent for 27



year olds (Egebark & Kaunitz 2014), however these figures are not permanent - they for instance vary with the variation in immigration. Figure II show the unemployment rate for foreign-born and domestic-born workforce participants in the age groups 15-24 years and 25-54 for the period 2005 until March 2016.

**Figure II: Unemployment rates for foreign-born and native in age groups 15-24 years and 25-54 years**



Note: Data from SCB, own adaptation. In this figure, foreign-born is defined as 1<sup>st</sup> generation immigrant. In the survey, foreign-born employees are defined as born outside EU.

The unemployment rate for young foreign-born in March 2016 is approximately 18.48 percent higher than for domestic-born youths the same month (SCB 2016). As presented in the graph, young foreign-born have struggled with high unemployment rates for years, and the payroll tax decrease from 2007 and 2009 showed no positive contribution to those figures (Egebark & Kaunitz 2014). According to Hensvik, Nordström Skans & Åslund (2009) one explanation for the low employment rate among young foreign-born is that managers often hire employees with similar origin and that foreign-born managers are underrepresented in the Swedish economy. To our knowledge, Egebark and Kaunitz are the only researchers that have examined payroll tax effects on the subgroup foreign-born. The implications of an increase in the minimum wage costs on the foreign-born employment rate have yet to be examined.

#### *D. The Retail Industry.*

In the retail industry there are a lot of low-wage workers such as youths, whom are sensitive to the labor market rigidity (Skedinger 2014). With all other variables held constant, the effect on firm profits should be corresponding to the effect on the wages, meaning that a decrease in wage costs should transfer into firm profits (Skedinger 2014). Skedinger (2014) reports a small profit increase in the firms with a lot of young employees before the reform. The fact that Skedingers study also mainly focus on larger firms makes it hard to draw conclusions regarding the impact on smaller firms profits. Since the profit increase that Skedinger shows was of a smaller nature, it is unlikely that companies can cover higher wage costs with earned profit (Daunfeldt and Hortlund 2014). Instead Daunfeldt and Hortlunds (2014) points out that the most likely result of the payroll tax increase will be a negative effect on the employment rate.

A report from the Swedish Trade research group show that in despite of the lower cost of employing youths the proportion of young employees within retail has decreased from 28.3 percent 2007 to 21.2 percent 2014. The proportion of worked hours of young employees (18-26) has also decreased from 37.5 percent in 2007 to 34.8 percent in 2014 (Carlén, S. 2015). These numbers do not imply causality, as stated above a small effect of the policy change has been proven by Egebark & Kaunitz (2014), but is however important in respect to the industry of interest in this thesis.

#### *E. Further Implications of an Increase in the Payroll Tax Rate.*

The payroll tax reduction is discontinuing in June 2016 (Swedish Tax Office). As previously stated the research conducted in the aftermath of the implementation of the reduction has shown only a modest effect on the employment rate. The question is how the labor market is going to react to a corresponding increase in the same tax. To our knowledge, Daunfeldt and Hortlund (2014) are the first researchers to forecast the employment effect of the payroll tax increase for youths on the Swedish labor market. They state that the payroll tax increase is not likely to have the same opposite effect as a decrease in the same tax. This means that the effect is asymmetric, and the effect on the employment rate may not be as modest as in the case with the tax decrease. Since wages are rigid downwardly the wages will not adjust to the extent that a general economic model will suggest, the effect will instead show in the employment rate (Daunfeldt and Hortlund 2014). Empirical support to Daunfeldt and

Hortlund (2014) theories about asymmetric effects is given by two studies conducted in Colombia and France. Kugler and Kugler (2008) analyzed employment effects from an payroll tax increase in Colombia and found that a 10 percent payroll tax increase resulted in a decrease in the employment rate by 4-5 percent.

Kramarz and Philippon (2001) examine the French labor market during the 1990s, which is a period in French labor economy that is consisting of both increases and decreases in the payroll tax. The study focuses on the employment effects on low-wage workers, which is the group where you find most young employees (Skedinger 2014). During 1995 and 1996 the payroll tax in France decreased from 40 percent to 20 percent for low-wage workers, a decrease that is comparable to the decrease for youths in Sweden in 2007 and 2009 (from 32.42 percent to 15.52 percent). In their paper they show that the effects from an increase and decrease in the payroll tax is asymmetric. As Egebark and Kaunitz (2014) has reported for Sweden, Kramarz and Philippon (2001) reports that a payroll tax decrease only had modest effects on the employment rate in France. However, the effect from an increase is far from modest. Kramarz and Philippon (2001) study report a demand elasticity of -1.5 percent. If the minimum cost (including the payroll taxes) for a low-wage employee increase by 1 percent, it is 1.5 percent more likely that the low-wage employee would go from employment to unemployment (Kramarz and Philippon 2001). It is important to take external validity into consideration when relating these results to Swedish conditions. For instance, differences in economic conditions between Sweden and Colombia and the fact that the French study were conducted on data from the 90s, implies that labor market mechanisms in present day Sweden differs from the findings in above mentioned studies.

### **III. Hypotheses**

The implications of the discontinuation of the payroll tax decrease inspired this paper. The research conducted by Egebark & Kaunitz (2014) stated that there was no impact on the foreign-born employment rate from the payroll tax decrease. However, due to asymmetric effects Daunitz and Hortlund (2014) state that the employment rate for foreign-born is most likely going to be affected negatively by the payroll tax increase for youths. The asymmetric employment effects from changes in the minimum costs for employees in France (Kramarz and Philippon 2001) led to the hypotheses that follow. The focus is on small retail owners since they are not likely to cover the increase in costs by profits (Skedinger 2014).

- *Hypothesis I:* Young foreign-born will have a lesser chance of employment after the payroll tax increase for youths.
- *Hypothesis II:* Small retail firms will have to decrease their workforce of young employees in general as a direct effect of the increase in payroll taxes for youths.

#### **IV. Data and Method**

In this section the survey and method used for the analysis is described. Moreover, the data gathering process and an analysis of non-responses will be provided in the second part.

##### *A. Survey.*

Since the policy change in payroll taxes is current at the time of this study, no data of employment effects were available. Therefore a survey was constructed to examine the implications from the pay roll tax increase. More specifically, the study is aimed towards the retail industry since the small profit margins and large share of young workers would imply that those are susceptible to the policy change (Skedinger 2014). Assessments on whether results from a survey are translatable to real market mechanisms differ. For example, while Cummings, Ganderton, Harrison & McGuckin (1994) find that stated economic commitments do not always equal real economic commitments, Vossler & Kerkvliet (2003) show that stated willingness to pay do not statistically differ from real willingness to pay. Since some of our results depend on hypothetical statements, we will interpret those more carefully.

For the majority of questions in the survey, we used a six point Likert scale to attain as much information as possible without diminishing the respondent's capacity to distinguish between categories (Alwin 1992). Previous research show that respondents are eager to choose the neutral option on a scale, so by creating a six point scale the respondent are bound to reveal their favored answer (Allen & Seaman 2007). There is some dispute in the academic field whether oblige respondents to answer positively or negatively to a question may result in response bias, however, in an article by Guy Moors (2008) it was found that a six-point scale expose the more true, consistent effects compared to a five-point scale.

The survey has three parts (Appendix A), the first part consisting of questions about respondent characteristics and distribution of different forms of employment in the firm as well as age and origin of employees. These characteristics were gathered in order to control for different attributes of the firm, as well as to investigate whether employers of young foreign-born are more affected by the policy changes. Questions about the managers tax

preferences and knowledge about the payroll tax were also included. The two latter parts of the survey are more directed in terms of our questions of interest, and the data gathered from these parts are used to test our hypotheses.

To test our first hypothesis we constructed a question consisting of two varying attributes, age and origin, which was asked in connection to a similar question that varied the attributes experience instead of origin. The reason for using varying characteristics and including the question with experience was to make it less clear to the respondent that it was the origin aspect that was of interest, and in that way minimizing the effect of response bias (Furnham 1986). The respondents were asked how likely it was, on a scale of 1 to 6, that they would hire someone born inside of Europe above 26 years of age rather than someone younger born outside of Europe. All respondents were asked the question first in a scenario with a 15 percent payroll tax for youths and secondly in a scenario with a 31 percent payroll tax for all employees, since we wanted to examine the effect from the change in the payroll tax rate. Foreign-born were specified as born outside of Europe in this question, which mean that the counterpart is born in Sweden as well as in other parts of Europe. This was a suitable division in this case, since the majority of immigrants and asylum seekers come from regions outside of Europe (SCB 2016) (Swedish Migration Agency 2016). Another advantage of this specification is the decreased risk of biasing the results, as a result of respondents taking offence of the question distinguishing between certain groups (Appendix A).

To study the effects of the current changes in payroll taxes on youth employment we asked the respondents approximately how many of their young employees that had been let go or had reduced working hours due to the changes in payroll taxes in 2015. Furthermore, we asked them approximately how many of their young employees will be let go or have reduced working hours due to the changes in payroll taxes in 2016 (Appendix A). The two questions were asked for both fulltime young employees and part time or temping young employees and answers were given in the categories “None”, “Less than half”, “Half”, “More than half” and “All”.

### *B. Data Analysis of Hypotheses.*

To test the first hypothesis, the means from the two different questions with different payroll tax levels was compared. The main method used was a paired sample t-test, since it is two different conditions answered by the same respondents (Field 2009). We have assumed equal distance between points when analyzing all Likert scale outcomes. The null hypothesis is that

the means do not differ, that young foreign-born are employed in the same extent with both levels of the payroll tax rate. If the means from the scenario with 15 percent payroll tax rate significantly differ from the scenario with 31 percent payroll tax rate, we reject the null hypothesis, meaning that young foreign-born are employed differently depending on the payroll tax level.

In order to test hypothesis II we will consider the managers' stated cut downs of 2015 and 2016. Since the data is categorical we will compare the proportions of companies not affected/affected and discuss real effects on youth labor. The statements of further cut downs of young labor in 2016 will be considered more carefully since those statements offer hypothetical values.

### *C. Further Exploration.*

To strengthen our results and to further understand what affects firms' reactions in the above-mentioned hypotheses, we investigate the impact of other attributes of firms and firm representatives. We believe that the firm having young foreign-born workers will affect the results, and therefore this attribute is included as an explanatory variable. In addition, characteristics of the firm representative would allow us to control for the results being skewed in case of the sample not being representative of the target population. Controls that will be included are the managers' age and sex, and also the size of the firm, in this case measured in number of employees.

To determine if these attributes of the firm and manager had an effect on the outcome of the firm, an OLS regression model were used for hypothesis I. The dependent variable is the difference in stated preference between the scenario with 31 percent payroll tax for all employees and the scenario with 15 percent for youths. The difference takes a positive value if the respondent is less willing to employ young foreign-born when the payroll tax is equal for all age groups. Furthermore, firms with positive outcomes in this variable are considered to be sensitive towards changes in the payroll tax, those with negative or zero outcomes insensitive.

$$\text{Difference} = \beta_0 + \beta_1 \text{youngforeignbornemployees} + \beta_2 \text{female} + \beta_3 \text{age} + \beta_4 \text{\#employees} + \varepsilon$$

Likewise, to test if those attributes of the firm and manager had an effect on the real outcome in youth employment in the firm, the logit model was used. The logit model builds on the cumulative distribution function and is used to analyze regressions with a categorical

dependent variable (Gujarati 2009), in this case a binary variable indicating if the company has reduced or will reduce working hours of young employees. The logit regression line will predict the probability for the firm having to cut down on youth working hours for any given value of the determinants.

$$\ln\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 \text{youngforeignbornemployees} + \beta_2 \text{female} + \beta_3 \text{age} + \beta_4 \text{\#employees} + \varepsilon$$

\*Where P is the probability of the binary variable = 1 given female, age, #employees and youngforeignbornemployees assume the value one.

The method used for both the OLS- and the logit regression was “forced entry”, where all predictors of interest are simultaneously added to the model (Field 2009). The data used fulfills the assumptions underlying each model. The first beta coefficient captures the effect of the firm having young foreign-born employees, testing whether this affects the firms’ propensity to employ young-foreign born at different levels of the payroll tax. The dummy indicating respondent is female and the variable for age of the respondent is used to control for certain differences in outcome due to firm specifics, making sure that our results are representative for the population. It’s possible that a certain age and sex of the firm manager differ between subdivisions of retail, hence controlling for these attributes will control for some of the potential differences between firms in the sample and firms in the population. The variable indicating number of employees in the firm will control for differences in firm size.

#### *D. Sampling and Distribution of Questionnaire.*

The study is aimed towards small retail companies with one or more employee. Our sample consist of retail companies in Gothenburg with a turnover in between five hundred thousand and ten million SEK that were registered as employers and according to their annual report had paid salaries to employees during 2014. Only companies organized as joint-stock companies were included, since other organizational forms are under different tax regulations. Relevant contact information was gathered from several online resources displaying information from annual reports.

The sample size originally consisted of 165 companies in the relevant turnover class. However, some of the companies contacted stated that their company had gone into bankruptcy or that they didn’t have any employees and were therefore excluded from the sample and from the presentation of responses/non-responses below. The companies that were unreachable were assumed to be presently inactive and were also excluded from the sample.

All companies were contacted via telephone and asked to participate in the survey; if they agreed to participate the questionnaire was distributed through an email containing a link to the online form, in order for the respondents to answer when they found it convenient. Among the 124 companies that were reached and fit our target group, 58 managers agreed to participate and 33 answered the survey, which makes the response rate of this study 26.6 percent. The reasons given for not wanting to participate were lack of time (23,1 percent of non-responses), no young employees (8,8 percent of non-responses), not enough knowledge and not sufficient Swedish language understanding (3,3 percent of non-responses respectively). The remaining part of non-respondents did not state a reason for not wanting to participate in the survey. To increase the response rate email reminders were used.

According to Baruch and Brooks (2008), the problem with reluctance to answer a questionnaire is challenging and depends in part on over-surveying, causing survey-fatigue (Saxon et al 2003). Furthermore, seeking responses from organizational representatives has proven a lower response rate than for individuals, 35.7 percent compared to 52.7 percent (Baruch and Brooks 2008). The low response rate in this study might depend on the indirect way of distributing the survey and that managers of small retail businesses often participate in the daily tasks and don't have time to prioritize answering a questionnaire.

The remaining responses consist of six franchise stores, namely 7-eleven and Pressbyrån, in Gothenburg that were not originally in the sample of which all six managers contacted responded to the survey. To see whether the large non-response rates would imply distorted results, t-tests to test for differences between the group of respondents and the group of non-respondents were conducted and are presented in the section below. Furthermore, we tested for differences in responses between the originally sampled group and the convenience stores.

#### *E. Analysis of Non-responses.*

Table II presents the results from two sampled t-tests of differences in characteristics between non-respondents and respondents. The data of non-respondent characteristics is given by annual reports and the data of respondents' characteristics is given in the survey and by annual reports.



**Table I**

	<i>Non-respondents</i>	<i>Respondents</i>	<i>Difference</i>
<b>Share of females</b>	0.275	0.641	-0.366***
<b>Foreign-born</b>	0.154	0.077	0.077
<b>No of employees</b>	3.056	5.222	-2.166***
<b>Turnover (1000 SEK)</b>	4459.30	6194.77	-1735.47***

Note: \*\*\*, \*\* and \* indicate at which level (1, 5 and 10% level) the difference were statistically significant.

The difference in share of females between the group of non-respondents and the group of respondents is 0.366 and highly significant, meaning that females are overrepresented among the responses. The differences in number of employees and turnover between the groups are negative and significant, implying that we have an underrepresentation of smaller businesses among our responses. If smaller firms suffer larger effects of the discontinuation of the payroll tax reduction, the results might be skewed. The possibility that firms with female managers or firms that are larger on average would behave differently in a hiring situation must also be considered.

When testing for differences in responses between the originally sampled group and the additional group of franchise stores, the two groups had responded equivalently on the majority of questions. Highly significant differences in responses were however found in average age of respondent, average number of employees and in the managers' propensity to employ young, inexperienced worker at different payroll tax levels. Furthermore, the additional group of respondents also employed young employees and employees born outside of Europe to a higher extent, the difference being significant at a 0.1 level. The respondents in the additional group was 13.64 years younger on average and had 5.73 more employees on average compared to the sampled group and they stated higher sensitivity to a payroll tax increase when it comes to experience, which will be discussed further below.

The first sample is consistent to the target group since no observations deviate from the restrictions in turnover, and all firms had employees during 2014. Two of the convenience stores deviate in turnover, the average turnover in that sample therefore being higher. They did however have employees during 2014. However, overall, the share of female representatives differs from the target group. A possible explanation for this could be that females tend to answer surveys to a larger extent (Smith G. 2008).

Data on firm characteristics for Sweden were collected to examine if the results were applicable for the nation. According to the SCB publication of occupational statistics from 2014 the share of female managers in trade companies is 30 percent. According to Swedish

Trade and Industry (2015) there are 49 percent female managers within retail and the hotel and restaurant industry combined, and thus any exact numbers cannot be concluded solely for the retail industry. The previous figure is not consistent with the SCB publication of occupational statistics from 2014. These figures might differ due to differences in time, but also depending on what type of business the various industries contain. It cannot be stated that companies similar to our target group are solely included in the measurements, and we have therefore chosen to apply the figures from the SCB occupational statistics from 2014, this since the figure is more consistent with the target group.

According to Hensvik, Nordström, Skans & Åslund (2009) foreign-born managers consist of 3.8 percent of the managers in the retail industry. A later written report suggests that the amount of foreign-born managers is 7.3 percent (Efendic, Andersson & Wennberg 2012), however, since this figure also includes the communication industry the figures for the retail industry are less precise. It is also plausible that the figures differ due to variation in time and the proportion of foreign-born managers is increasing in the retail industry. We have therefore applied the latest statistic. Since exact data on the average age of managers in the target population is not available, we cannot draw any firm conclusions on deviations between the respondent firms and the firms in the target population regarding that variable.

## **V. Results**

In this section the results from our econometric methods are accounted for. Descriptions of the variables used in the analysis are presented first, followed by the t-test regarding our first hypothesis. In the latter part the results for hypothesis II is provided. Results from the OLS and logit regressions are presented under the main results for each hypothesis respectively. Moreover, a short presentation of the other results from the survey is presented in the last section.

Table II consist of definitions and descriptive statistics of the variables used in the analysis of both hypothesis, including the OLS and logit regressions.

**Table II**  
**Description of variables**

The table consists of the variables used in our analysis and explanations about what information they contain.

<i>Variable</i>	<i>Description</i>	<i>Mean</i>	<i>Std. Dev.</i>
<i>Female</i>	= 1 if respondent is female	0.641	0.485
<i>Age</i>	= age of respondent (years)	42.32	10.61
<i>Foreign-born</i>	= 1 if respondent is a 1 <sup>st</sup> generation immigrant	0.077	0.270
<i>No of employees</i>	= number of employees <sup>7</sup>	5.222	3.522
<i>Young, foreign-born employees</i>	= 1 if respondent has young foreign-born employees under the age of 26 years.	0.342	0.481
<i>Difference I payroll tax, origin.</i>	= differences in managers' preferences to hire a foreign-born under the age of 26 years, comparing the results from the scale of 1 to 6 in 15 % payroll tax level to the scale of 1 to 6 in the 31 % percent payroll tax level.	1.179	1.449
<i>Difference II payroll tax, experience</i>	= differences in managers' preferences to hire a inexperienced worker under the age of 26 years, comparing the results from the scale of 1 to 6 in 15 % payroll tax level to the scale of 1 to 6 in the 31 % percent payroll tax level.	1.026	1.530
<i>Cut down indicator 2015</i>	= 1 if respondents state that they had to reduce working hours of young as a direct effect of the payroll tax increase in 2015	0.308	0.468
<i>Cut down indicator 2016</i>	= 1 if respondents state that they will have to reduce working hours of young as a direct effect of the payroll tax increase in 2016	0.436	0.502
No of respondents	39		

As mentioned in IV. E. Analysis of non-responses, 64.1 percent of respondents were female, 7.7 percent 1st generation immigrants and respondent firms had 5.2 employees on average. 34.2 percent of firms stated that they had employees that were both under 26 years and born outside of Europe. The variable “Difference payroll tax I”<sup>1</sup> is the differences in responses between two different tax rates for the behavioral question regarding origin, and has the mean of 1.179. The associated variable “Difference payroll tax II”<sup>1</sup> is the same difference for the question regarding experience and has the mean 1.026. 30.8 percent of firms stated they reduced working hours of young employees due to the payroll tax increase of 2015 and 43.6 percent stated that they will have to due to the current increase.

<sup>1</sup> Firms with positive values in this variable are considered to be sensitive towards changes in the payroll tax, those with negative or zero outcomes insensitive.

*A. Hypothesis I: Impact on the Subgroup Foreign-born.*

Table III below displays results from the t-test comparing the means from our two behavioral questions mentioned in section IV.

**Table III**  
**T-test between the means of the likeliness to employ an older, European worker compared to a young, foreign-born worker.**

Variable: Likeliness to hire older, European.

<i>Variable</i>	<i>Mean</i>	<i>Std. Err.</i>
<i>Tax at a 15 % level for youths</i>	3	0.257
<i>Tax at a 31 % level for all</i>	4.179	0.262
<b>Difference</b>	<b>-1.179***</b>	<b>0.232</b>

Note: \*\*\*, \*\* and \* indicate at which level (1, 5 and 10% level) the difference were statistically significant.

The paired sample t-test reveals significant differences between the two means; the null hypothesis is therefore rejected at a significance level of 0.01. On average, young foreign-born are less likely to get employment when the pay roll tax is 31 percent (M=4.179, SE=0.2262) compared to when the pay roll tax is 15 percent (M=3, SE=0.257),  $t(38)=-5.085$ ,  $p<0.01$ . The difference between the means is -1.179, a considerable difference on a six-value scale. The results presented from the t-test is consistent with the findings of Kramarz and Phillipon (2001), suggesting that young foreign-born will have a lesser chance of employment as a result of a payroll tax increase for youths. Table IV displays coefficients of the attributes of the firm and manager estimated by the OLS regression.

**Table IV**

Coefficients from the OLS regression. The dependent variable is equal to the difference between the 31%- and 15%-scenario when employing a young, foreign-born.

<i>Variable</i>	<i>Coefficient</i>
Young, foreign-born employees	1.878***
Female	0.968**
Age	0.040
No of employees	-0.128
No. of respondents	35 (89.7%)
$F(4,30)=4.71$ **	$R^2=35.9\%$

Note: \*\*\*, \*\* and \* indicate at which level (1, 5 and 10% level) the coefficient were statistically significant. Low correlation among the explanatory variables indicates no problem with multicollinearity.

Significant results can be reported for two variables. On average the variable young foreign-born employees affects managers' sensitivity<sup>2</sup> towards changes in the payroll tax. The effect is positive at a significance level of 0.01, being an employer of young foreign-born increases the sensitiveness towards the payroll tax with 1.878 on the Likert scale<sup>3</sup>. The large effect from this variable is conceivably due to the fact that these respondents are most affected by the changes in the payroll tax since they are employing young workers. However, when running the same regression only with the variable young employees replacing young foreign-born employees, the coefficient for young employees is not significant (Appendix B, Table VII). Hence, it can only be stated that the managers' sensitivity increases if the young employees are foreign-born.

As for the control variable female the effect is also positive at a significance level of 0.05, and thus the sensitivity increases with 0.968 on the Likert scale<sup>2</sup> when the respondent is a female. The implication for this is that female managers are more sensitive towards fluctuations in wage costs compared to male managers. However, it is plausible that the differences in sensitivity is due to an underlying factor that is common for the companies managed by the female respondents and not that the differences is explained by the sex of the manager. One factor may be type of store. When the regression presented in Table IV is recomputed with the extra selection as a control, it can be stated that the effect is greater in size from the extra selection (1.309) compared to female variable (0.905), both variables at a significance level of 95 percent (Appendix B, Table VIII). Since 83.33 percent of the respondents in the extra selection are female managers, it is possible that the type of retail store, e.g. franchise stores, have an effect on the sensitiveness towards changes in the payroll tax and skew the results of the beta coefficient for female upwards. In this case it only modified the results modestly, but prove that firm specific attributes that haven't been accounted for affect the sensitiveness towards changes in the payroll tax and may in fact be the reason for the female coefficient being this large (0.968). Furthermore, it should be mentioned that the results for both sex and young foreign-born employees presents large standard errors for the beta coefficients, which is probably due to the small sample size of 39 observations. Moreover, the results are based on hypothetical statements collected from the retail managers, and therefore one should be careful when making strong assumptions.

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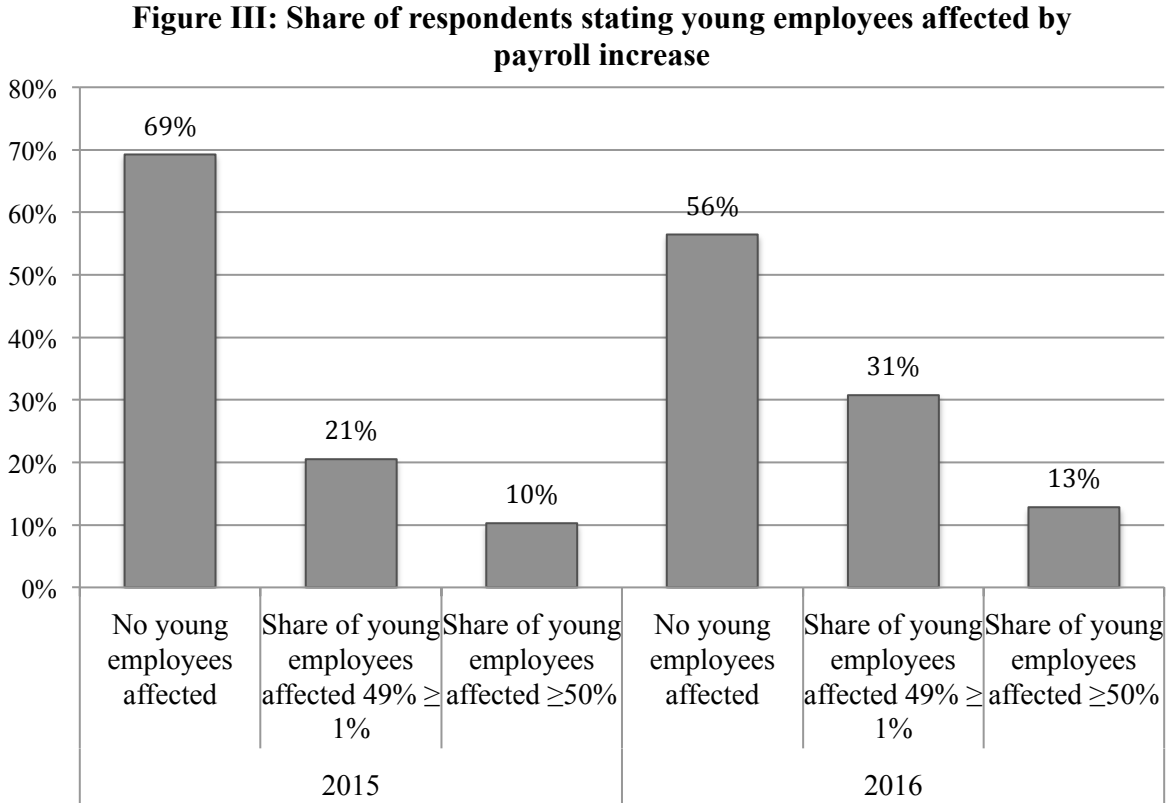
<sup>2</sup> Sensitivity refers to the managers' propensity to employ young foreign-born at different payroll tax levels for youths. If managers employ young foreign-born in a less matter when the payroll tax is the same for all age groups, then the manager is considered to be sensitive towards changes in the payroll tax.

<sup>3</sup> The scale consists of the comparison between the results on the six-point Likert scale for the 31 percent tax level and 15 percent tax level.

For the rest of the control variables, it cannot be concluded whether age of the firm representative or size of the firm correlates with the outcome.

*B. Hypothesis II: Impact on Youth Employment.*

Figure III displays the shares of responding firms stating that they had to fire or reduce working hours of their young employees due to the changes in payroll taxes of 2015 or will have to due to increases in 2016.



Note: Calculations done using 39 observations, the share of “no young employees affected” including firms that do not currently employ young.

A majority of the respondents stated that they didn’t have to reduce working hours of young employees since of the payroll tax increase of 2015. However, 31 percent stated that they had to reduce working hours of young employees in their company as a direct effect of the payroll tax increase in 2015 and 44 percent believe that they will have to cut down on working hours of young employees due to the increase in payroll tax June 2016. The percentage of firms stating that the policy has affected half or more of their young employees is 10 percent in the case of the 2015 increase and 13 percent in the case of the future increase. Considering the analysis of non-respondents, some stated the reason for not answering the survey was that

they did not currently have young employees, which implies that the share of affected retail firms in total is smaller.

The statements of further cut downs of young labor in 2016 forecast a slightly higher mean of employees affected of the increase in 2016 than in 2015, which should be interpreted cautiously taken into account the effects being hypothetical statements of the managers. Furthermore, it's not likely that a real effect of the second increase in payroll taxes is larger than the first one, considering the percentual changes are smaller. Table V present results from two different logit regressions and the estimated marginal effects of the attributes of the respondents and firms.

**Table V**  
**Marginal effects for the two different logit regressions.**

<i>Variable</i>	<i>Cutdown 2015</i>	<i>Cutdown 2016</i>
	Marg. Eff.	Marg. Eff.
Female	0.034	-0.149
Age	-0.014*	0.013
No of employees	-0.012	0.042
Young, foreign-born employees	0.117	0.062*
No of respondents 39 (100%)	35 (89.7%)	34 (87.2%)

Note: \*\*\*, \*\* and \* indicate at which level (1, 5 and 10% level) the difference were statistically significant. Low correlation among the explanatory variables indicates no problem with multicollinearity.

The control variable age have a significant effect at a significance level of 0.1 on the likeliness of the firm stating that they reduced working hours of young employees due to tax rates changes in 2015. On average, if the respondent is one year older, the likeliness of the company making cut downs decrease with 1.4 percentage points. However, the effect of age in 2016 is positive and insignificant, which might imply that the significant result is due to chance or captures an unknown factor of the firm that is correlated with both outcome and age. If the age of the organizational representative correlates with attributes of the firm, which we cannot control for, it means that our results are overstated if managers' are older on average or understated if managers are younger on average.

Assuming that the statements about future cut downs 2016 done by organizational representatives are reliable, companies with young foreign-born employees would have an increased likeliness of 6.2 percentage points of having to reduce young labor in their company. This variable is significant at a significance level of 0.1. The remaining estimates

are not significant, it can therefore not be said that those attributes have any effect on the likeliness of young employees in the firm being affected of the payroll tax increase.

### *C. Further Results from the Survey.*

Another t-test was conducted for the sensitiveness towards changes in the payroll tax rate among retail managers (Appendix B, Table VI). Here the comparison was made between an older, experienced worker and a young, inexperienced worker. At a 0.01 significance level it can be stated that young inexperienced people are less likely to get employment when the payroll tax is 31 percent compared to when the payroll tax is 15 percent, this with a difference of -1.026 on the Likert scale.

Knowledge about the payroll tax among managers were also investigated, where only seven out of the 39 respondents answered correctly on all of the three true or false statements. All of the managers felt that the payroll tax at this current time is too high, with a mean of 5.421 on the Likert scale. Similar results can be reported for whether the managers think that the payroll tax is for their company's economic situation, with a mean of 5.154 on the Likert scale. The managers were also asked whether they would reduce working hours for young or cover the increased wage costs with profit, setting higher prices or decrease working hours for older employees. The results reveal that managers are more willing to cover the costs with profits (M=3.692) and less willing to cover the costs with higher prices (M=2.821), compared to reducing working hours of young employees.

## **VI. Discussion**

The previous sections have provided a picture of the consequences that arise due to changes in wage cost, both by reviewing past results and analyzing findings from our survey. As discussed in the literature section, Kramarz and Philippon (2001) conducted a scientific study on French data showing that the negative employment effect of higher labor costs for companies are significantly larger than the positive effect of the corresponding decrease. The implications of their study combined with the current discontinuation of the payroll tax decrease, as well as the labor markets' challenges due to immigration Sweden presently faces, motivated us to conduct this research.



*A. Hypothesis I: Effects on the Subgroup Foreign-born.*

Our results suggest that retail firms react differently when hiring employees, depending on the payroll tax rate. With a difference of 1.179 on a six point Likert scale, our results suggest that young foreign-born on average are less likely to be employed in a situation with 31 percent payroll tax rate for all age groups compared to when the payroll tax rate for youths is 15 percent. However, it can be concluded that the results are overestimated. This depends in part on women being overrepresented among the respondents (*IV. E. Analysis of non-responses*) and that the OLS regression reveals that the control variable female has a positive coefficient (0.968) at a 0.05 significance level. However, a significant difference between the two scenarios can be reported and therefore we argue that some outcomes are probable based on our findings. Since young foreign-born are a growing subgroup as a direct effect of the increasing number of immigrants, a more fierce competition over available jobs and higher unemployment rate among young foreign-born is expected. Furthermore, the difference we find is supported by the findings of Kramarz and Philippon (2001), assuming that most young foreign-born, like other young people, are low-wage workers.

One reason for the results above could be that managers are less likely to hire a person with another origin than himself or herself: foreign-born hires foreign-born and natives employ natives (Hensvik, Nordström Skans & Åslund 2009). According to Hensvik, Nordström, Skans & Åslund (2009) this pattern is strongest in small companies in the private sector where the manager owns the company. The fact that the majority of firms in our sample has native retail managers (36 out of 39 respondents, Table I) and that the investigation was conducted on small private companies could provide an explanation for our results, suggesting that young foreign-born have a lesser chance of employment when the payroll tax is the same for all age groups. This implies that a sample including more foreign-born organizational representatives would prove to have a smaller difference. However, since only 7.3 percent of the managers in the retail industry are foreign-born (Efendic, Andersson & Wennberg 2012) there is no reason to believe that our results deviate from the real effect since of the few foreign-born respondents.

Since the question asked to the respondents also consist of the variable age, it's possible that the managers prefer older employees and therefore the results for foreign-born are less clear-cut. From the t-test where experience replaced origin as the variable of interest, the results suggest that the difference is similar in size to the difference reported when origin is the variable of interest, a difference of 1.026 compared to 1.179 for the question including origin. This implies that strong conclusions regarding young foreign born cannot be drawn

based on the data from the survey. However, if some of the effect of the payroll tax increases is due to the respondent thinking of a young worker as a worker with lower productivity, the effect will still apply to young foreign-born even though we cannot transfer the results to apply to foreign-born of all ages.

From the OLS regression it can be stated that firms employing young foreign-born show less propensity to employ young foreign-born when the payroll tax is equal for all age groups. As previously argued in the results, this is probably due the fact that managers employing young people are most affected by the changes in the payroll tax.

### *B. Hypothesis II: Effects on Youth Unemployment.*

When cutdowns in the retail companies' workforce were examined, we found that 30.8 percent of firms have been forced to reduce working hours for young employees since of the payroll tax increase for youths. Furthermore, 43.6 percent of the firm representatives believe that they have to reduce, or further reduce, working hours for young employees as a direct effect of the last increase in the payroll tax for youths in June 2016. The fact that the results imply larger negative effects on youth employment in the retail industry after the latest increase should be interpreted with caution. This since the first question is stated experience and the second question provide hypothetical statements. Moreover, the tax increase was larger in 2015, making it unlikely that effects would be larger after the increase of 2016. This reasoning suggests that the stated economic reactions do not equal real market mechanisms in this case. Given this, it is more probable that the effect will prove to be smaller than stated by firm representatives after the latest payroll tax increase for youths. Controlling the outcomes with firms attributes showed that the firm being an employer of young foreign-born increased the likeliness of stating a further cutdown 2016. However, most of the controls used in the logit regressions were insignificant. This might depend on the small sample size and therefore the possibility that determinants could have proven significant with a larger sample cannot be ruled out. If a female manager, an older or younger manager or number of employees in the firm do have an effect on whether the firm has or will have to make cut downs in young workforce, the estimated effects will not equal the real effects. What can be concluded is that our results show it do exist a negative effect on employment, but considering the unrepresentative and small sample we cannot conclude that the size of the real effect is consistent with our results.

### *C. Further Limitations.*

As stated above, one of the problems with our findings is the small sample size. However, it provides enough statistical power for certain predictions in our results. Since the effect of being an employer of young foreign-born is significant for a large proportion of the outcomes, it provides important implications to policy makers on how to direct labor market policies in terms of integration in the years to come.

Another problem is the small response rate to the survey, which makes it impossible to imply whether the estimated effects on the retail industry is exact. This since our high non-response rate increases the risk that certain groups in our sample answered the survey to a greater degree. It is possible that those responding have a certain interest in the subject, meaning that the firms that have suffered losses from the changes in tax rates might be more likely to answer the survey. We can argue that our results would still show effects from a tax increase given a larger sample size and a better response rate, only the effect might prove to be smaller. Another aspect concerning the sample is that bankrupt firms were not included. Those companies hardest hit by the changes in payroll taxes might have been those forced to bankruptcy in the last year, which would negatively bias the results. However, it is not probable this has any substantial effects on the results, since not many firms were excluded for that reason.

We have to underline the importance of interpreting results from surveys with care, since they might suffer from response bias and hypothetical bias. For example, the respondents might answer biased towards the positive or negative wording of a question. When the respondents were asked if they regarded the payroll tax rates as too high, the majority of respondents answered according to the questions negative property, fully agreeing with the statement. In order to avoid the effect of response bias in the question regarding employment of a young foreign-born worker, the question included another covariate, namely “age” and specified foreign-born as “born outside of Europe”, which we argue lessened the impact of response bias (*IV. A. Survey*). However, the question is hypothetical, which means that the respondent firm might not act accordingly to the answer given. The same reasoning could be applied to the question of further cutdowns after the tax increase of 2016. Despite this, the firms’ statements offer indications worth considering - if they had been truly indifferent to the changes in tax policy, they would have stated no difference in the propensity to hire a young foreign-born worker. Likewise, they would have stated no further cutdowns of young employees after the tax increase in 2016.

In order to reduce non-response rates the questions were constructed to be easily answered, for example by letting the respondent state an approximation of effects of the payroll tax increase on workers creating data on ordinal scale. In addition, questions regarding origin where formulated in general terms, for example by asking the respondent if they were born in Sweden, in Scandinavia but not in Sweden, In Europe but not in Scandinavia or outside of Europe, to avoid respondents taking offence and being reluctant to answer the question. We believe that these compromises resulted in the respondents stating more accurately the true effects and their true preferences, the drawback being that the data is less specific. If we could redo this study, we would rather choose one of the outcome variables to be answered more specifically for data on numerical scale, sacrificing some of the other questions.

## **VII. Conclusion**

The reason the Swedish government chose to take away the tax reduction for young employees was that studies had shown that the effect of the reduction was small and inefficient in relation to the decrease in government income. The discussion following this decision is that even though the policy weren't efficient there could be asymmetric effects unaccounted for in the decision about the current policy change. Given that the theory of asymmetric effects is true and taking the side of companies, small businesses would suffer losses as a result of the policy change. Taking the side of employees, the policy change would imply a higher unemployment rate for low wage workers.

Earlier results show larger effects of a decrease in labor cost on educated youths and no effects on foreign-born (Egebark & Kaunitz 2014), and that the negative effects of an increase are largest when isolating the group of workers closest to minimum wage (Kramarz and Philippon 2001). Our results imply that small retail firms on average rather hire someone born outside of Europe if they cost less and that some cutdowns in working hours of young employees has been or will be done within the retail industry due to the tax increase. Even so, the cost of each job created by the policy changes of 2007 and 2009 has proven to be inefficient and the positive effects largest among those groups not bound by the minimum wage. We will therefore conclude that the negative effects of the current policy change on the subgroup young foreign-born, as well as other groups close to minimum wages, is best offset by aiming resources towards those specific groups rather than aiming the reduced tax rates on all employees a certain age.

For future studies it would be interesting to see the asymmetrical effects of the reversion of the policy on labor close to minimum wages. We are sure that researchers are eagerly waiting for the data to be available.

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## APPENDIX A

### *Payroll Tax Implications Survey*

**We are two students from the University of Gothenburg that are writing our thesis about the implications to changing policies for payroll taxes for young employees. This survey is addressed to managers within the retail industry and consists of questions that will help us understand how government tax decisions affect companies and their employees. We are very thankful for your contribution to our study!**

**Note that the answers you contribute will be anonymous and will not be used for any other purpose than this specific study. The survey consists of three parts and it will take about 15 minutes to answer the survey.**

1. Please write the code you received in the email. \_\_\_\_\_

#### ***Part 1 – The Business***

2. Please state how many years have you been employed in your current position: \_\_\_\_\_

3. Please state your sex:

Male       Female       Other/I don't want to answer

4. Please state your age: \_\_\_\_\_

5. Please state your origin:

Sweden       Scandinavia, outside of Sweden

Europe, outside of Scandinavia       Outside of Europe

6. Please state to which degree you are involved in the daily tasks of the store (such as opening and closing, receiving deliveries and taking care of customers).

Not at all      1      2      3      4      5      6      To a very high degree

**Following statements has to do with what you as a manager know about and think is important. Please state how true you find the statements by crossing an alternative on the scale below, where “1” means “completely false” and “6” means “entirely true”.**

7. I have large insight in the economic situation of my store.

Completely false    1    2    3    4    5    6    Entirely true

8. I possess large knowledge about the laws and regulations concerning my store.

Completely false    1    2    3    4    5    6    Entirely true

9. I regard payroll tax rates as important for my store.

Completely false    1    2    3    4    5    6    Entirely true

10. When I think about payroll tax rates I consider them too high.

Completely false    1    2    3    4    5    6    Entirely true

**Following questions has to do with how well the tax office has been able to inform business owners and managers about the payroll taxes. They consist of statements that can be either true or false. State if you believe the statement to be true or false by crossing the box for “True” or “False”.**

	True	False
11. The payroll tax rates are currently equal for an 18-yearold employee and a 27-yearold employee.	<input type="checkbox"/>	<input type="checkbox"/>
12. The payroll tax rate was roughly 10 % for those under 23 years old during the summer of 2015.	<input type="checkbox"/>	<input type="checkbox"/>
13. The payroll tax rate will be the same for all employees that are below pension age starting September this year.	<input type="checkbox"/>	<input type="checkbox"/>

**Employees**

The following questions are regarding how many of the employees currently employed in your store that have different forms of employment, or are young on the labor market.

<i>Please state your answer by crossing the box for the alternative that you think is most correct.</i>	<b>None</b>	<b>Less than half</b>	<b>Half</b>	<b>More than half</b>	<b>All</b>
14. Please state how many of your employees that are employed on full-time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Please state how many of your employees that are employed on part-time and/or on hourly basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Please state how many of your employees that are under 26 years old.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Please state how many of your employees that are born outside of Europe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Please state how many of your employees that are both born outside of Europe and under 25 years old.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Part 2

Starting 2007, the payroll taxes for young employees were reduced in two stages. On January 1 2009, the two stages were completed and the payroll taxes for employees under 25 years old were reduced from 32% to 15%. In 2015, the tax reduction was partly discontinued: under 25 year olds paid 25% tax. From June 2016 tax for under 25 year olds will be 31%, the same as for all employees.

### ***Situation with low payroll tax for young employees***

Imagine a situation where the payroll tax level had continued to be 15 % for employees under 26 years old. Please state how true you find the statements below would be for your store if workers under 26 years old were cheaper to hire.

19. A person over 26 years old with former service experience is more likely to get employment in my store than a person under 26 years old with no former service experience.

Completely false    1    2    3    4    5    6    Entirely true

20. A person over 26 years old born in Europe is more likely to get employment in my store than a person under 26 years old born outside of Europe.

Completely false    1    2    3    4    5    6    Entirely true

### ***Situation with higher payroll tax for young employees***

You will now receive the same statements as above. However, this time you will imagine a situation with a 31 % payroll tax for all employees. Please state how true you find the statements below would be for your store if workers cost the same no matter age.

21. A person over 26 years old with former service experience is more likely to get employment in my store than a person under 26 years old with no former service experience.

Completely false    1    2    3    4    5    6    Entirely true

22. A person over 26 years old born in Europe is more likely to get employment in my store than a person under 26 years old born outside of Europe.

Completely false    1    2    3    4    5    6    Entirely true

**Part 3 – Increased costs and consequences for firms and employees**

The cost of keeping an inexperienced 19-yearold full time has increased with approximately 2000 SEK per month since 2015, and will increase more than 3000 SEK after June 2016 because of changes in tax policy. Please state how true you find the statements below by crossing an alternative on the scale.

**Consequences for employees**

The questions below are regarding whether you have been cutting down on working hours due to increased costs for young employees, or if you will have to do the same in the future.

<b>Situation Today</b> <i>Please cross the box for the alternative that you think is most correct for your store.</i>	<b>None</b>	<b>Less than half</b>	<b>Half</b>	<b>More than half</b>	<b>All</b>
23. Please state how many of your full-time <u>young employees</u> have been let go/reduced their working hours due to the increased payroll tax for young employees during 2015.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Please state how many of your part-time and temporary <u>young employees</u> have been let go/reduced their working hours due to the increased payroll tax for young employees during 2015.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Situation in Future</b>					
25. Please state how many full-time <u>young employees</u> will be let go/reduce their working hours due to the increased payroll tax for young employees in June 2016.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Please state how many part-time and temporary <u>young employees</u> will be let go/reduce their working hours due to the increased payroll tax for young employees in June 2016.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***Other alternatives***

**Please state to what degree your store would choose other alternatives to cover increased costs, rather than decreasing the number of worked hours of young employees per month.**

27. Let profits cover the increased costs.

Not at all    1    2    3    4    5    6    To a very high degree

28. Set prices in the store higher.

Not at all    1    2    3    4    5    6    To a very high degree

29. Decrease number of worked hours for older employees

Not at all    1    2    3    4    5    6    To a very high degree

30. Other comments:

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## APPENDIX B

**Table VI**

T-test between the means of the likeliness to employ an older, experienced worker compared to a young, inexperienced worker at different pay roll tax rates for youths.

Variable: Likeliness to hire older, more experienced.

<i>Variable</i>	<i>Mean</i>	<i>Std.Err.</i>
<i>Tax at a 15 % level for youths</i>	3.28	0.249
<i>Tax at a 31 % level for all</i>	4.308	0.218
<b>Difference</b>	<b>-1.026***</b>	<b>0.245</b>

Note: \*\*\*, \*\* and \* indicate at which level (1, 5 and 10% level) the difference were statistically significant.

**Table VII**

Coefficients from the OLS regression. The dependent variable is equal to the difference between the 31%- and 15%-scenario when employing a young, inexperienced worker.

<i>Variables</i>	<i>Coefficient</i>
Female	0.849*
Age	0.021
No of employees	-0.036
Young employees	0.897
No. of respondents	34 (87.2%)
<i>F(4,29)=2.09</i>	<i>R2=15.1%</i>

Note: \*\*\*, \*\* and \* indicate at which level (1, 5 and 10% level) the coefficient were statistically significant. Low correlation among the explanatory variables indicates no problem with multicollinearity.

**Table VIII**

Coefficients from the OLS regression. The dependent variable is equal to the difference between the 31%- and 15%-scenario when employing a young, foreign-born.

<i>Variables</i>	<i>Coefficient</i>
Female	0.905**
Age	0.054**
No of employees	-0.212**
Young, foreign-born employees	2.067***
Extra selection	1.309**
No. of respondents	35 (89.7%)
<i>F(5,29)=5.75</i>	<i>R2=42.7%</i>

Note: \*\*\*, \*\* and \* indicate at which level (1, 5 and 10% level) the coefficient were statistically significant. Low correlation among the explanatory variables indicates no problem with multicollinearity.