Article

Intertemporal Substitution and Labour Supply of Bosnian SME's

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Our paper aims at testing the intertemporal substitution hypothesis (ISH) for small and medium enterprises (SMEs) in Bosnia and Herzegovina. The hypothesis predicts a positive relationship between the hours worked and the transitory changes in wages. We tested the hypothesis using the data on the daily income and worked hours collected via the survey questionnaire among small entrepreneurs in North-Western Bosnia and Herzegovina. The estimated wage elasticities turned out to be positive and different from zero, according to which it appears that the hypothesis of negative wage elasticities was not backed up by the empirical evidence. Our findings imply that the intertemporal labour substitution hypothesis found evidence and that we can reject the daily targeting hypothesis. We also argue that Bosnian entrepreneurs tend to pursue profits across working days because their main motive for running a business is the accumulation of capital and wealth, so that they follow the pattern of intertemporal labour substitution. The findings can be explained by an unfavourable business climate in Bosnia and Herzegovina, which is a result of a long-lasting transition process the country is still undergoing.

Keywords: labour supply, elasticity, intertemporal substitution, daily targeting, SMEs, Bosnia and Herzegovina.

JEL Classification: C23, D90, J22

Introduction
The response of labour supply in variation to the wage rate over time has an important role in understanding business cycle fluctuations. Moreover, in relevant research literature, the intertemporal labour supply elasticity yields different results that have policy implications. Labour supply is sensitive to intertemporal variation in wage, where the intertemporal substitution effect is measured by the elasticity of labour supply with respect to wage rate.

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It helps to predict that workers in some cases are willing to substitute labour and leisure intertemporally (Lucas and Rapping, 1969). Nevertheless, these results are difficult to interpret, especially since the intertemporal substitution hypothesis (ISH) assumes the wage to be transitory i.e. wages are relatively constant within the day, but uncorrelated across days, which in reality is hardly the case. In literature, there are different approaches to the ISH, where the macroeconomic model is based on aggregate data with labour supply responses having relatively high elasticities, while the microeconomic model is based on the panel data with small labour supply elasticity. Accordingly, there is no consensus among economists on the sign and value of the elasticity used in labour market studies, but the estimation of the type of behaviour that workers are used to following, as well as the psychological aspect, can help to understand the working patterns of small entrepreneurs.

According to the classic economic theory, people try to maximize income and leisure time, working longer when the wage rate is higher and working less when the wage rate is lower. The evidence for this can be found among the occupations that allow workers to choose how many hours a day to work. Specifically, Camerer et al. (1997) proved the daily targeting hypothesis of income for New York City taxi drivers, who intertemporally substitute leisure and work. Wage is a key determinant of the number of hours of work and that an increase in the wage usually leads to an increase in the labour supply, which implies an upwards-sloping labour supply curve and the extent to which a wage increase leads to an increase in the labour supply. Studies show that there is a possibility for the labour supply curve to be backwards-bending due to the decision of the worker to work fewer hours when the wage is increased and to consume more leisure. This can be due to the behavioural influence and the difference between each worker’s target and life aspirations. Hence, the income effect where a worker can reach his income target faster and therefore work fewer hours might convince people to work less and have more leisure time, which might be the case in developed countries with favourable business climates and well established legal framework.

Therefore, the question of the daily targeting hypothesis for entrepreneurs is related to the country’s overall economic growth and business climate, as well as the ambient with which the SME sector is faced. In order to contribute to the research literature on labour supply elasticity, we analysed the development of the SME sector in Bosnia and Herzegovina and gauged the country’s business climate.

This paper is structured as follows: Part 2 provides a literature review on the estimation of labour supply elasticities. Part 3 covers the theory of intertemporal substitution. Part 4 examines the SME sector in Bosnia and Herzegovina. Part 5 describes the empirical analysis by providing an overview of data, methodology, selected model, and results obtained. Finally, the conclusions sum up the findings and provide relevant policy implications.

1. Labour supply and intertemporal substitution

According to the research literature, the hours worked are positively related to the wages. However, many sources suggests that even though the prediction of the general economic theory is straightforward – i.e. the hours worked are positively related to the wage – it is not easy to verify (see e.g. Ham and Reilly 2014, Abrham et al., 2015, Nikulin, 2015).
Empirical findings and evidence show different working patterns than are perceived by the general economic heuristics. The intertemporal substitution hypothesis (ISH) explains how labour supply responds to wages and recent income changes. Based on the life cycle model of labour supply, the intertemporal substitution theory suggests the measurement of the rate of intertemporal substitution by using variation in annual wages and hours worked. Most studies that employed this approach found small or even negative elasticities of labour supply (Blundell and MaCurdy, 1999). As the research literature suggests, the ideal test of the labour supply response to the wage increase is the one where the wage is transitory, which means that it is relatively constant within a day but uncorrelated across days. However, the problem is that most entrepreneurs in the SME sector have very limited ability to decide how much to work, which is the main reason why this research mainly focuses on workers with occupations that allow choosing how long and how hard they will work each day. The mechanism of intertemporal substitution of leisure in a real business cycle has been described as the main cause of fluctuations in the level of employment, which, together with shocks, has an effect on the employment rate. Hansen and Wright (1992) stated that intertemporal substitution is the core of the labour-market specification of empirical real business cycle models. Barro and King (1982) view the ISH as an integral part of labour market fluctuations in employment, which is included in the basis of business cycles.

In line with the business cycle model, the existence of the intertemporal substitution hypothesis (ISH) is an important factor of macroeconomic policies (Barro and King, 1982).

In general economic theory, Lucas and Rapping (1969) were pioneers in testing the validity of the intertemporal substitution hypothesis in macroeconomics. Even though this approach at first relied on Keynesian labour market theories, later it was seen more as a pure classical model of employment fluctuations, as Rees (1970) stated. The main idea behind the ISH in the labour market theory in which labour supply responds positively to transitory increases in the real wage, and real interest rate is that workers are rational in deciding how to adjust their labour supply in times with favourable and negative shocks the economy is full of. Moreover, Lucas et al. claim that workers intertemporally substitute labour and leisure, working more when wages are higher and consuming more leisure when the foregone wage is lower.

The ISH as one of the central questions in macroeconomics has been widely investigated in order to show empirically the results of the hypothesis, which resulted in divided opinions according to different studies of the macroeconomic perspective.

For example, according to Thomas Coleman (1984), most of the variation in aggregate man-hours in US data resulted from employment variation, which, according to Mankiw, Rotemberg and Summers (1985), resulted in the rejection of the ISH. On the contrary, Alogoskoufis (1987) used aggregate US and UK time-series data and employed alternative wage variables, such as annual, weekly and hourly wages in which he obtained positive elasticity of labour supply with values ranging between 0.5-1.5. Alogoskoufis (1987) reached conclusions which are favourable to the ISH and stated that the response of labour supply to real wages increase is more important for the number of employees than for the hours worked. Mankiw, Rotemberg, and Summers (1985) examined empirically the differential response of labour supply to transitory shocks to real wages on aggregate data. They stated that leisure does not downsize the problem of consumption based on intertemporal substitution and so rejected the ISH. Mankiw, Rotemberg, and Summers...
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(1985) enumerated multiple reasons for poor empirical results, which can be due to measurement and estimation errors, seasonal fluctuations that account for variance in leisure, and others. They obtained implausible parameters of the intertemporal utility function, which are the structural parameters of the model. Low or even negative elasticities are estimated for intertemporal substitution. On the contrary, Dutkowsky and Foote (1992) performed some robustness tests with the estimated intertemporal substitution model in which they rejected the over-identifying restrictions of Mankiw, Rotemberg, and Summers (1985). In this study, the money demand equation shows good results by using the seasonally adjusted US data estimated on the semi-reduced-form labour supply function, which indicate significant intertemporal substitution effects. Regarding the labour supply elasticity on aggregate data, Douglas (1934) used age-sex groups for 38 US cities and examined both the time series and the cross-section data on hours of work and hourly earnings, thereby obtaining a negative elasticity ranging between -0.1 and -0.2. Considering the real business cycle model and its relation to the elasticity of labour supply, Depew and Sorensen (2011) obtained results based on which they inferred that the labour supply elasticity is lower during recession and higher during expansion. Therefore, the elasticity sign of labour supply depends not only on models and data purely, but on many other factors as well, which significantly affect the results.

From a microeconomic perspective, studies on intertemporal substitution hypothesis and labour supply elasticity are based on the household data analysis in which each household represents its preference on leisure measured by the elasticity of labour supply. Mankiw, Rotemberg, and Summers (1985) and Altonji (1986) examined the response of the labour supply concerning the variations in wage rates over time. Altonji (1986) used microdata on wages, hours worked, and other household characteristics, whereby he also examined the two approaches to the measurement of intertemporal substitution that exist in literature. The first approach uses consumption as a control variable for wealth and unobserved expectation about future wages in the labour supply equation, and the second approach estimates the first difference equation for hours where the previous period of labour supply is a control variable for wealth and wage expectations. The paper estimates intertemporal labour supply elasticity by using data for men who have been married for 14 years (panels), which contain data on both labour supply and consumption. The main problem of the implementation of intertemporal models of labour supply lies in the dependence of current labour supply on past and expected future wage rate, which is usually missing data. The obstacle faced throughout the study is the measurement error in discovering the reaction of labour supply to changes in the transitory wage. Hence, the model contains many limitations, among which the most important one is the assumption that workers can choose the hours worked and face exogenous wages. The average wage measure causes bias and there are restrictions to married men in a specific group age so that the evidence is based on the hourly rated workers. The results indicate that the intertemporal substitution elasticity for married men is positive (between 0 and 0.35), but small. In addition to this, it means that there is no consensus on intertemporal supply response of the aggregate workforce apart from the expected wage fluctuations causing changes in the hours worked. However, the measurement error has to be taken into account, as well as the negative and statistically insignificant real wage elasticity result. MaCurdy (1981) estimated 3 relevant substitution elasticities that foresee the reaction of hours of work to changes in the wage. He assumes that an unexpected transitory change in the wage rate triggers a wealth effect, which is insignificant and has no long-run effect. Moreover, this explains that the effect of wage rate
depends on the source of changes. The intertemporal elasticity determines the labour supply response to wage changes resulting from life-cycle wage growth and movements over a certain business cycle. The results of the intertemporal substitution elasticity indicate that a 10% increase in real wage leads to a 1-5% increase in the hours worked, which falls in the same range as Altonji’s results (0 and 0.35). The results depend on the demographic characteristics included and since the intertemporal substitution elasticity is around 0, it suggests a reasonable degree of risk aversion. However, according to the literature, the ideal test of labour supply reaction to the wage increase should be consistent with the transitory wages (e.g. MaCurdy, 1981).

As already stated above, the neoclassical model of the life-cycle approach to labour supply predicts a positive wage elasticity of hours worked. Camerer et al. (1997) estimated the labour supply elasticity of New York City (NYC) taxi drivers, who represent a specific work force since they are in a position to choose how many hours they will work. The evidence shows a strong negative elasticity of hours worked to income earned, which is explained by a model in which the drivers have a daily income target and work until the target is reached. This is in compliance with the prospect theory that Kahneman and Tversky (1979) explained. Since people are generally loss averse, they are more sensitive to changes in income below the point of loss than above its gains.

Thus far, there is no consensus in the literature on the sign and value of elasticity that should only be used in the economic policy creation. The sign is unclear because the substitution effect can both be positive or negative depending on various factors, while the income effect can be negative due to the fact that a higher income leads to less work and more leisure, which in turn depends on the income target and needs of a worker or a household. Also, depending on the sign of elasticity, we can draw a conclusion about the pattern that entrepreneurs tend to follow in terms of working hours in their firms. Namely, in the case of depository elasticity, entrepreneurs chase profits and only have profit maximisation in mind, which is in favour of the intertemporal labour substitution hypothesis. On the other side, negative elasticity indicates the opposite, meaning that entrepreneurs have daily income targets which influence the working hours of their firms. However, there are different estimation strategies, which may lead to different results, but we will follow the approach that Camerer used in his study and look for the elasticity sign in order to examine the behaviour of Bosnian and Herzegovinian entrepreneurs in terms of income and working hours.

2. SMEs in Bosnia and Herzegovina

Bosnia and Herzegovina has a tradition of an industrial-based economy, which was developed before the war conflict in 1992, when the country split from the former Yugoslavia. The war conflict caused a huge devastation of infrastructure, followed by the beginning of the transition process from a planned to a market-oriented economy. All this has considerably affected the entire system of the country, which is undergoing a democratic, economic and social transition even today, more than 20 years after separating from former Yugoslavia.

Even though most of the former Yugoslav nations felt the effects of the last global economic crisis, in Bosnia and Herzegovina those effects were much stronger, due to the underlying economic and political conditions. Hence, the negative macroeconomic
conditions, accompanied by the economic and political problems, are widely caused by the signing of the Dayton Peace Agreement, which ensured the end of the war in the Western Balkans in 1995, but which divided Bosnia and Herzegovina into two entities: the Federation of Bosnia and Herzegovina and Republika Srpska, along with the third region of Brcko District. The complexity of the state structure lies also in the fact that the Federation of Bosnia and Herzegovina compromises of 10 cantons with separate cantonal governments and constitutions, with municipalities having their own local governments. Therefore, such a complicated and extensive legal and political framework with a decentralized government results often in overlapping competences, which considerably slow down policy reforms, which in turn negatively affects foreign investments and delay growth in each sector of economy. From 1996 to 1999, in the period immediately following the restoration of peace, the country was in an advanced stage of a post-socialist transition process, left with a legacy of war damage and ethnic conflicts, but still starting to recover. After the slight recovery in the early stages after the war, in the period between 2000 and 2001, the economy slowed down, after which the GDP grew on average around 5% until 2009.

However, the World Bank classified Bosnia and Herzegovina as an upper-middle income country and as a country at the average level of industrialization. As the global economic crisis started to influence Bosnian and Herzegovinian economy, the country experienced a decline in GDP of 2.8% in 2009, which grew by 1% from 2010. Up until 2011, Bosnian and Herzegovinian economy showed a slight recovery, after which the growth stopped due to the Eurozone crisis which had a negative effect on Bosnian and Herzegovinian export. Those negative effects mainly influenced the semi-processed goods from the metal industry, as well as capital inflows to BiH. Moreover, the BiH Directorate for Economic Planning recorded a decline in foreign direct investments (FDIs) of 42.5% in 2011, followed by small declines in the remittances that Bosnia and Herzegovina highly depends on. The banking sector in BiH is quite liquid and capitalized, even though there is an increase in non-performing bank loans. Foreign banks, primarily from Austria and Italy, account for over 90% of total assets in the BiH financial system. The national currency – convertible mark (BAM) – was introduced in 1998, and was fixed to the Euro in order to increase the confidence in the currency and the entire banking sector, hence, becoming the key anchor for monetary policy. Inflation remains low: it was around 0.8% in 2013, reflecting the dependence on domestic demand (European Bank for Reconstructions and Development, 2014).

Even though the private sector experiences growth, the overall business climate and the political instability strongly affect the decline in foreign investments. Government spending, at roughly 50% of GDP, remains high because of extensive bureaucracy. The privatization of state-owned enterprises has been slow and unsuccessful for many companies, leading to high unemployment which has become a serious macroeconomic issue. The unemployment rate declined from over 30% to 20% in 2009, but has again been on the rise ever since.

In 2006, the value-added tax was introduced quite successfully, thus becoming an anticipated source of government revenue that assisted in combating the grey market. Additionally, the question of statistical data at the national level remains an issue, with a lot of economic data missing. All things considered, the business climate in Bosnia and Herzegovina is quite problematic, lagging behind other economies in South-East Europe (SEE). According to the World Bank’s 2014 Doing Business Report, Bosnia and
Herzegovina ranked 131st out of 189 economies, reflecting its political and economic problems. The performance shows fragile indicators for starting a business, dealing with construction permits and obtaining electricity. Also, according to Transparency International, there is a lack of transparency and accountability due to a complex legal framework, and the Business Environment and Enterprise Performance Survey (BEEPS IV) showed that, out of 15 possible obstacles, more than 25% of the enterprises surveyed identified political instability as a serious problem affecting their business, along with the competition from the informal sector and access to finance. The table below (table no. 1) is a comparative analysis of the conditions for business establishment in the Western Balkan Countries, provided by Doing Business Report (2014). Based on the given numbers, the World Bank issued recommendations and guidelines to policy-makers in BiH for reducing the numbers in order to eliminate external obstacles and create a better environment for doing business, which we incorporated as the final section of this chapter as policy recommendations for improvement of the overall business environment in BiH.

<table>
<thead>
<tr>
<th>Table no. 1: Conditions for doing business – comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
</tr>
<tr>
<td>Procedures (numbers)</td>
</tr>
<tr>
<td>Time (days)</td>
</tr>
<tr>
<td>Cost (% of income per capita)</td>
</tr>
</tbody>
</table>

Source: Doing Business, 2014

Bosnia and Herzegovina has a tradition of an industrial-based economy, which has been developed during the period of planning-based economy as part of the former Yugoslavia, in which state-owned manufacturing enterprises were dominant. Hence, after a certain period of transition from a planned economy to a market-based economy, SMEs started to play a more important role in the process of wealth creation, economic growth, employment and the overall economic development. Therefore, Bosnia and Herzegovina is a typical example of a post-socialist transition country that is still developing the SME sector. For a long time, there has been no consensus or clear strategy regarding the vision and support of the country’s legislation towards the strengthening of the SME sector. Nevertheless, the importance of the SME sector has been recognized by the politicians and economists. Through different sources of access to finance, grants and the support of foreign institutions, the SME sector has started to play a more important role. We can also say that there is now an agreement regarding the vision and importance of supporting SMEs in all segments, which is an important factor in the overall economic development (Hasić, 2006; Kozubíková et al., 2015; Bartoš et al., 2015; Belas et al., 2015).

The term SME covers a heterogeneous group of businesses in a developing economy, entailing everything from small craft shops with a single employee to big companies that export their goods internationally (Fischer and Reuber, 2003). According to the EU, an SME is defined as a company employing fewer than 250 employees and is independent from large companies, having an annual turnover below €50 million and an annual balance sheet of less than €43 million.

The SME sector is the backbone of developed countries, but even though the sector is less developed in low-income countries, it represents the main driver of economic growth and
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The Organisation for Economic Co-operation and Development (OECD) reports that more than 95% of enterprises in the OECD area are SMEs. These enterprises account for almost 60% of private sector employment, make a large contribution to innovation, and support regional development and social cohesion. Also, in low-income countries, the SME sector makes a critical contribution to GDP and employment. Researchers and practitioners agree that SMEs are crucial contributors to job creation and economic growth in both high- and low-income countries. In Bosnia and Herzegovina, the term SME is not strictly defined, which is why we will use the European Commission’s definition, as presented in table no. 2. Accordingly, the SME sector in BiH covers 99% of enterprises with over 90% being micro enterprises, thus playing a central role in global economy. Therefore, this sector has potential to become the most important accelerator of Bosnian and Herzegovinian economy, which represents the basis for entrepreneurial skills and employment. In the 28 countries of the recently enlarged European Union, around 23 million SMEs provide around 75 million jobs. Moreover, SMEs are the primary source of added value and the creation of wealth and growth in Europe. This is the main reason why the European Commission, the United States United States Agency for International Development, and other international funds and institutions provide support programmes that enhance access to finance for: SMEs, projects that foster employment, business innovations, start-up programs and private sector growth in general in order to popularize entrepreneurship among Bosnian and Herzegovinian citizens. However, the source of problems are the development policies, legal frameworks and a lack of coordinated institutional support at all country levels, that if solved would result in SMEs being a source of development with job creation, extension to foreign markets, added value and finally to poverty reduction in the country (2009-2011 SME Development Strategy BiH) (Džafić and Rovčanin, 2009).

Even though data on SMEs are quite scarce and the government has provided no official definition of SMEs, we will mainly use the data from the 2009-2011 Small and Medium-Sized Enterprise Development Strategy in Bosnia and Herzegovina and from the OECD (2012). According to the data, among the number of legal entities in BiH the majority is micro enterprise, with up to 10 employees accounting for 93.6% of all SMEs, the majority of them being in the trade sector, whereas exports are usually of low added value. Additionally, after the Croatian accession to the EU, some industries have more difficulties following the loss of a major trading partner within the Central European Free Trade Association (CEFTA) region. Most of the enterprises are family-run businesses with low labour division, and enterprise performance is constrained by a lack of adequate management processes, as well as efficient production and comprehensive distributions and marketing channels. In BiH, grey economy should not be neglected since it amounts to 20-50%, and, based on the World Bank estimates, it covers around 36% of the country’s total economy. Taking a look at the general SME profile in BiH, we see that the wholesale and retail sector comprise 40% of all SMEs, followed by the catering sector which comes in second with around 13%. These sectors face competition and a low profit margin, and therefore many of them do not report all the hours, wages and income as they really are. The problem can be tackled by eliminating the above stated barriers and shortcomings are and therefore creating incentives for an efficient usage of recourses. Resources such as energy, agriculture, forests, and tourism are not efficiently used, and if this were to change, the SME sector profile would become more diverse by an enhancement of the

However, the private sector has a very low share of the overall economy in BiH, comprising only 45% of GDP, and the Index of SME Development is very low (Dzafic et al., 2011). Changing the environment for doing business – such as tax laws – could lead to changes in people’s behaviour, meaning that they would not work more, but would simply engage in a more taxable market labour and would produce more per worked hours (Prescott, 2004).

Hence, out of 161,295 legal entities, the OECD estimates that there are around 26,000 companies registered in BiH, with 97% of them being micro enterprises. Based on the approximation of the SME study of EDA (Development Agency Banja Luka), there are on average 8.3 SMEs per 1000 capita in Bosnia and Herzegovina, proving to be far behind the EU average of 40 SMEs per capita. Additionally, the analysis estimates that in the period between 2000 and 2005, the number of start-ups has decreased by 4-7% a year with a 15% decline in 2009, which is mostly because of the spillover effects of the recent economic crisis. Nevertheless, the main problems that are behind the slow growth are the following: fragmented ethnic groups in politics, institutional problems and uncoordinated actions between the two entities within the country. Also, the reasons for the indicators not being very bright are to some extent due to the unfavourable business environment, along with the already highlighted political instability, tax rates, limitations in accessing finance as the main obstacles to doing business. Other reasons why the indicators do not fully replicate the real economic situation in BiH and the SME sector are also to be found in insufficient adequate incentive measures, as well as the large portion of the informal sector. On top of that, SMEs have not been recognized from the outset in the BiH Development Strategy as playing a main role in acquiring economic growth. The reason why is mainly the traditional responsibility of the state for creating employment, and wealth creation through large state-owned enterprises. Since the privatization process negatively influenced the development of the SME sector, and the economic and legislative policies were established inconsistently on different levels of institutional bodies, it was difficult and very time consuming to put the SME sector in the forefront as the main development tool.

3. The survey and the data

In the case of Bosnian and Herzegovinian entrepreneurs, we assumed that, due to the background of living in a post-socialist country in which the transition process began more than 20 years ago, the pattern of doing business will show evidence of the daily targeting hypothesis. Moreover, we presumed that Bosnian and Herzegovinian entrepreneurs, based on their background and especially the tradition of the region where the data was collected, will display evidence of working long hours on the days when the wages and revenue are high, and quit early on the days when the opposite is the case. Hence, intertemporal substitution implies that entrepreneurs substitute labour for leisure when wages are temporarily higher and the daily targeting model suggests that entrepreneurs target the income level, which means they will finish their working day after the targeted income level is reached. Thus, this Chapter provides the empirical analysis of the two theories outlined above with the first results providing evidence of the intertemporal substitution rather than the daily targeting hypothesis, effectively rejecting our null hypothesis.
In our study, the estimation of labour supply has been conducted based on the data collected between 2013 and 2014 in North-Western Bosnia and Herzegovina using a survey questionnaire. The survey was created for entrepreneurs and designed in order to collect answers about their firms and the working patterns they used to follow in terms of the working hours and the strategy for running their business. With 23 questions, the survey encompassed 124 independent and privately owned firms randomly distributed in the Northwest region of the country called the Una-Sana Canton. Out of the 124 firms surveyed, 12 firms were discarded since their answers contained a lot of missing data, so that the data sample for further estimation contained 112 firms. Each of the firm was observed for a time period of 14 days and was cleaned for missing data before proceeding with further estimation, so that the data sample contains a total of 1,341 observations. The survey questions focused on obtaining the data on the entrepreneur’s position, the sector in which the firm belongs, the number of employees, the firm’s strategy, motivation for doing business, the number of hours worked, the income earned, and other questions summarized and described below. Table no. 2 presents positions of the entrepreneurs within the company divided by entrepreneur’s education and gender. Therefore, 60 entrepreneurs are actual firm owners, 22 of them are managers, 26 are employees and 4 are owners and managers. Furthermore, 28% of the respondents are female while the majority of the entrepreneurs surveyed are male (72%). The majority of the respondents hold a secondary school degree or only a primary school degree, with 40 out of 60 firm owners holding a primary or secondary school degree, and with only 20 respondents possessing a Bachelor or a Master degree (table no. 2).

<table>
<thead>
<tr>
<th>Firms</th>
<th>Owner</th>
<th>Manager</th>
<th>Employee</th>
<th>Manager and Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60</td>
<td>22</td>
<td>26</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Primary &amp; Secondary School</td>
<td>B.Sc. &amp; M.Sc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>20</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Gender by education and position*</td>
<td>Females</td>
<td>Females</td>
<td>Females</td>
<td>Females</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

*Out of 112 entrepreneurs, 26 are female, which is around 23%

Source: Own results

The most represented are the firms in the service sector, the production and trade sector, and agriculture (where honey and herbs producer are mostly dominating the market). All the firms surveyed are referred to as small-sized enterprises employing between 1 and 50 workers with most firms employing up to 5 employees (41%).

Most of the entrepreneurs surveyed claimed to have a household income between 6,000 BAM and 25,000 BAM, which means that their average monthly household income lies between 300 € and 1,000 €. These values tell us that one group of entrepreneurs is in a very difficult economic situation or they are not reporting honestly about their household income. On the contrary, there are around 30% of entrepreneurs who stated that they have a yearly household income of above 25,000 BAM, or even above 60,000 BAM, which represents quite a high household income for Bosnia and Herzegovina.
In order to explore the performance of the firms, the entrepreneurs answered questions about their motives to run their business and their main business strategies in terms of profit and hours of work (table no. 3 and table no. 4). Based on the responses of the firm owners, we can say that the main objective of Bosnian and Herzegovinian entrepreneurs is chasing profits, with over 60% interested only in earning as much income as possible.

**Table no. 3: Motive for running business**

<table>
<thead>
<tr>
<th>Which sentence best describes your motive to run a business?</th>
<th>Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making as much money as possible.</td>
<td>71</td>
<td>63.39</td>
</tr>
<tr>
<td>To make enough to satisfy my family's basic needs.</td>
<td>34</td>
<td>30.36</td>
</tr>
<tr>
<td>I just follow the trend, everyone does business nowadays.</td>
<td>7</td>
<td>6.25</td>
</tr>
</tbody>
</table>

*Source: Own results*

**Table no. 4: Firm’s main strategy**

<table>
<thead>
<tr>
<th>What is your firm's main strategy as it makes its daily business on the market?</th>
<th>Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Try to stay in business regardless of the losses.</td>
<td>9</td>
<td>8.04</td>
</tr>
<tr>
<td>Achieve immediate profit, close after that.</td>
<td>2</td>
<td>1.79</td>
</tr>
<tr>
<td>Achieve profit in an indefinite time horizon.</td>
<td>95</td>
<td>84.82</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>5.36</td>
</tr>
</tbody>
</table>

*Source: Own results*

From the answers below, we see that the main strategy of Bosnian and Herzegovinian firm owners is the maximization of profit in a longer time horizon, and most entrepreneurs stated they work fixed working hours (55%) while around 30% work longer hours on “good days” and shorter hours on “bad days” (table no. 5).

**Table no. 5: Daily hours of work**

<table>
<thead>
<tr>
<th>Which sentence best describes how many hours you usually work every day?</th>
<th>Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I work until I make a certain amount of money.</td>
<td>19</td>
<td>16.96</td>
</tr>
<tr>
<td>I work a lot when I do well (“good day”) and quit working early when I do badly (“bad day”).</td>
<td>32</td>
<td>28.57</td>
</tr>
<tr>
<td>I usually work fixed hours.</td>
<td>61</td>
<td>54.46</td>
</tr>
</tbody>
</table>

*Source: Own results*

The key variables for the estimation of labour supply elasticity are the daily hours of work and the daily wage earned, which is shown in the table below and analysed in this section (table no. 6). We will show the relationship between the hours that entrepreneurs choose to work each day and the daily wage they earn. As already mentioned above, in the beginning we had a data sample of 124 firms and each firm was observed within a 14-day period, leading to 1,736 observations. Since there were some data missing, such as the working hours for some days on which some entrepreneurs do not work, we eliminated the days on which the firms do not work and constructed an unbalanced panel for 112 firms with a 14-day period, which in total makes a data set with 1,341 observations. The unbalanced panel consists of n observations on individuals observed at different number of times Tₙ, which in our case is a period of 14 days. In the table below we calculated the mean, standard
deviation, minimum and maximum, which show us that entrepreneurs work 8.64 hours per day on average and earn an average daily wage of 78 BAM (40 €). The average number of years the firm has been in existence is 16 years, with 10 years of experience within the firm and the average age of the firm owner, manager or employee being 42.

Distribution of working hours within the firm suggests that around 50% of the firms choose to work a fixed number of hours each day.

**Table no. 6: Summary Table of Daily Hours Worked, Daily Wage, Experience and Age**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Observation</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily hours</td>
<td>1341</td>
<td>8.644295</td>
<td>2.158518</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Daily wage (BAM)</td>
<td>1341</td>
<td>78.05593</td>
<td>110.4873</td>
<td>0</td>
<td>750</td>
</tr>
<tr>
<td>Firm’s existence (years)</td>
<td>1341</td>
<td>15.68009</td>
<td>13.60744</td>
<td>2</td>
<td>75</td>
</tr>
<tr>
<td>Experience (years)</td>
<td>1327</td>
<td>9.618689</td>
<td>8.334769</td>
<td>1</td>
<td>40</td>
</tr>
<tr>
<td>Age</td>
<td>1301</td>
<td>42.94312</td>
<td>11.35178</td>
<td>23</td>
<td>64</td>
</tr>
</tbody>
</table>

*Source: Own results*

In table no. 7, correlation is calculated between the daily hours worked and the daily wage earned, showing a positive correlation, resulting in 0.2745. After calculating the logarithms for the hours worked and the daily wage earned, we assessed the wage elasticity of labour supply using the daily number of hours as the dependent variable and the daily wage that the entrepreneur earns during the day as the independent variable, and we again obtained a positive correlation (0.3008), which is also depicted in the scatter plots below (table no.7).

**Table no. 7: Daily Hours and Daily Wage Correlation**

<table>
<thead>
<tr>
<th>Simple correlation</th>
<th>Daily hours</th>
<th>Elasticity</th>
<th>Daily hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily hours</td>
<td>1.0000</td>
<td>Daily hours in log value</td>
<td>0.0000</td>
</tr>
<tr>
<td>Daily wage</td>
<td>0.2745</td>
<td>Daily wage in log value</td>
<td>0.3008</td>
</tr>
</tbody>
</table>

*Source: Own results*

After we determined the sign and the value of the correlation between our key variables, we supposed that there are variations across days and firms – heterogeneity. This is due to the fact that some firms work long hours during favourable time periods for their business, depending on their activity and sector, while they do not work at all during the rest of the years. We can find one such example in our data for the honey producers, and within some entrepreneurs in the agriculture sector, such as egg and raspberries producers. Also, we assume that there is heterogeneity across days for specific firms. There are firms which work depending on the amount of work and customers, but there are many more firms that work fixed daily hours. Additionally, Monday seems to be the busiest day, and there are firms that work during the weekends and take free days during some days of the week, while there are firms that do not work during weekends at all. Therefore, the panel data we have in our study should be controlled for unobserved heterogeneity that we detected across firms and over days, and which is presented in the graphs below.
4. Empirical model and its estimation

A major advantage of panel data is an increased precision in estimation, which is a result of an increase in the number of observations caused by a combination of several time periods of data for each individual. In this paper, a long panel with a relatively small cross section of 124 firms was observed for a number of time periods (14). Since the panel data provide information on individual behaviour both across time and across individuals, we used the panel regression method, which is designed to explore the panel feature of our data with the following econometric model that we employed. The formal model can be presented as follows:

\[ \ln L_{it} = \beta_1 + \beta_2 \ln w_{it} + \beta_3 X_{it} + \varepsilon_{it} \]  

(1)

where:

\( \ln L \) and \( \ln w \) - are natural logarithms of the daily hours worked and the daily wage, respectively.

The resulting coefficient of \( \ln w \) in this case is elasticity of the daily hours worked with respect to daily wages. The variable \( X \) is a vector of control variables. In order to estimate the panel regression coefficients we had three different options – namely, the pooled OLS, the fixed effects and the random effects model. Since fixed effects and random effects models account for country-specific effects, it is generally advised to use them instead of the pooled OLS with few exceptions. To decide between fixed or random effects, we ran the Hausman test, where the null hypothesis is that the preferred model is the random effects model and the alternative model is the fixed effects model, testing whether unique errors are correlated with the regressors (Greene, 2008). The result of the test is in accordance with the theory, which states that, in fixed effects models, the estimation of the coefficient of any time-invariant regressor, such as the indicator variable for gender that we had, is not possible as it is absorbed into the individual-specific effect. Coefficients of time-varying regressors are estimable, but these estimates may be very imprecise if most of the variation in a regressor is cross sectional rather than over time (Cameron and Trivedi, 2005). Therefore, they do not estimate the effects of variables whose values do not change across time, which are demeaned variables having a value of 0 for every case, and since they are constants, they will drop out of any further analysis. However, we used the Hausman test to show which model is more appropriate for our panel data (table no. 8). In the test, the null hypothesis is that the random effects model is consistent and efficient, while the fixed effects model is consistent but inefficient, and since the p value for the test is greater than 0.05 having the Prob>chi2=0.8986, we cannot reject Ho and can conclude that the random effects model is a preferred method for estimation in our case. Thus, we tested whether fixed effects are present by using the Hausman test of whether there is a statistically significant difference between these estimators. Also, compared to the fixed effects, the random effects model has the advantage of stronger assumptions of permitting a consistent estimation of all parameters, including the coefficients of time-invariant regressors (Cameron and Trivedi, 2005).
Table no. 8: Hausman Test

<table>
<thead>
<tr>
<th></th>
<th>b</th>
<th>B</th>
<th>b-B Difference</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log daily wage</td>
<td>.131208</td>
<td>.1294752</td>
<td>.0017327</td>
<td>.013601</td>
</tr>
</tbody>
</table>

b = consistent under Ho and Ha;
B = inconsistent under Ha, efficient under Ho;
Test: Ho: difference in coefficients not systematic
Prob>chi2 = 0.8986

Source: Own results

Alternatively, any other pair of estimators with similar properties, such as the pooled OLS, can be used, and we which compared the estimators to the pooled OLS after deciding to use random effects. In order to decide between random effects and the pooled OLS, we used the Bruesch-Pagan test with the alternative hypothesis being in favour of the pooled OLS over random effects. From the results of the test presented below (table no. 9), it is evident that we can reject Ho at the 0.001 level of significance and conclude that there are random effects in the model and consequently it is preferred over the pooled OLS model. Additionally, in the previous section we already identified heteroskedasticity, which causes standard errors to be biased, which we corrected by calculating robust standard errors which tend to be more trustworthy. Robust standard errors address the problem of errors that are not independent and identically distributed, and they do not change the coefficient estimates provided, but they do change the standard errors and significance tests slightly. Furthermore, we estimated how elasticity varies when we include dummy variables for days and firms, which is presented in the section below.

Table no. 9: Breusch and Pagan Lagrangian Multiplier

<table>
<thead>
<tr>
<th>Breusch and Pagan Lagrangian Multiplier Test for Random Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log daily hours[firm,t]=Xb+u[firm]+ e[firm,t]</td>
</tr>
<tr>
<td>Estimated results</td>
</tr>
<tr>
<td>Var</td>
</tr>
<tr>
<td>log days</td>
</tr>
<tr>
<td>E</td>
</tr>
<tr>
<td>U</td>
</tr>
</tbody>
</table>

Test: Var (u) = 0
chibar2(01)=3602.95
Prob>chibar2= 0.0000

Source: Own results

Based on the results of the random effects model, which proved to be the most appropriate model for our analysis, the estimated wage elasticity is positive and significantly different from zero. The elasticity amounts to 0.12 and the estimated coefficients for the dummy days variables are positive and significantly different from zero. The estimated elasticity of labour supply with respect to daily wages can be interpreted as 1% growth in the daily wage earned increasing the number of hours worked by 0.129%, and the variable is significant at a 1% level, meaning that Bosnian and Herzegovinian entrepreneurs tend to substitute labour and leisure intertemporally (table no. 10).
Table no. 10: Comparison table of RE and Pooled OLS

<table>
<thead>
<tr>
<th></th>
<th>Random effects</th>
<th>Pooled OLS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef</td>
<td>Std Err</td>
<td>P&gt;</td>
</tr>
<tr>
<td>Log daily wage</td>
<td>.1294752</td>
<td>.0293708</td>
<td>0.000**</td>
</tr>
<tr>
<td>Firm existence</td>
<td>.000875</td>
<td>.0293708</td>
<td>0.000**</td>
</tr>
<tr>
<td>Experience</td>
<td>.0004685</td>
<td>.0035327</td>
<td>0.894</td>
</tr>
<tr>
<td>Gender</td>
<td>.0073147</td>
<td>.0525831</td>
<td>0.889</td>
</tr>
<tr>
<td>Employee</td>
<td>.0487767</td>
<td>.1067644</td>
<td>0.648</td>
</tr>
<tr>
<td>Manager</td>
<td>.0853094</td>
<td>.1077388</td>
<td>0.428</td>
</tr>
<tr>
<td>Owner</td>
<td>.0516202</td>
<td>.1124949</td>
<td>0.646</td>
</tr>
<tr>
<td>Primary school</td>
<td>.0955314</td>
<td>.0910811</td>
<td>0.295</td>
</tr>
<tr>
<td>High school</td>
<td>.1411645</td>
<td>.0902266</td>
<td>0.118</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>.0124926</td>
<td>.0994867</td>
<td>0.900</td>
</tr>
<tr>
<td>Age</td>
<td>.0016731</td>
<td>.0023851</td>
<td>0.483</td>
</tr>
<tr>
<td>Const.</td>
<td>1.528118</td>
<td>.182229</td>
<td>0.000**</td>
</tr>
<tr>
<td>Obs</td>
<td>1286</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.1430</td>
<td></td>
<td>0.1441</td>
</tr>
</tbody>
</table>

Note: Dependent variable is the log of the hours worked. Standard errors are in parentheses and are corrected for heteroskedasticity. Significance levels: *: 10%  **: 5% or better

Source: Own results

Hence, our estimation proved that the hypothesis of positive labour supply elasticity and daily targeting hypothesis hold no empirical evidence for Bosnian and Herzegovinian entrepreneurs.

In random effects, the loss of significance is present and standard errors are underestimated by the pooled OLS, so that many variables that are not significant in the random effects are significant in the pooled OLS. However, the number of years a firm has existed and the experience of the entrepreneur within the firm were expected to be positive signs, and they are significant for the number of years a firm exists in random effects. Other controls do not directly affect the labour supply or the hours worked. Furthermore, the position of the entrepreneurs within the firm has a positive impact on the daily hours worked, but is also not significant. The education level plays a more significant role, with quite unexpected results, which are positive for the primary school degree (0.095) and high school degree, with a significance level at 5% being 0.141. The R-squared, which is the percent of variance-explained measures of the overall fit of the model, and which is 0.1430 and 64% of the variance, can be explained by the dissimilarities among entrepreneurs. Even though the determination coefficient is around 14%, small R-squared are reported in other similar studies, but are still acceptable under this framework.

The results from the random effects with dummy days (table no. 11) included prove what we already graphically represented in the previous section, i.e. that there are days that are busier than others.
Table no. 11: Random Effects with Dummy Days Included

<table>
<thead>
<tr>
<th>Log daily hours</th>
<th>Random effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef</td>
</tr>
<tr>
<td>Log daily wage</td>
<td>.126281</td>
</tr>
<tr>
<td>Firm existence</td>
<td>.006897</td>
</tr>
<tr>
<td>Experience</td>
<td>.00932</td>
</tr>
<tr>
<td>Gender</td>
<td>-.008008</td>
</tr>
<tr>
<td>Employee</td>
<td>.0400308</td>
</tr>
<tr>
<td>Manager</td>
<td>.0814493</td>
</tr>
<tr>
<td>Owner</td>
<td>.0465279</td>
</tr>
<tr>
<td>Primary school</td>
<td>.0953107</td>
</tr>
<tr>
<td>High school</td>
<td>.1431257</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>-.0088965</td>
</tr>
<tr>
<td>Age</td>
<td>-.0017051</td>
</tr>
<tr>
<td>Monday (D1)</td>
<td>.1156529</td>
</tr>
<tr>
<td>Tuesday (D2)</td>
<td>.094715</td>
</tr>
<tr>
<td>Wednesday (D3)</td>
<td>.1151032</td>
</tr>
<tr>
<td>Thursday (D4)</td>
<td>.1046292</td>
</tr>
<tr>
<td>Friday (D5)</td>
<td>.0976305</td>
</tr>
<tr>
<td>Saturday (D6)</td>
<td>.0278254</td>
</tr>
<tr>
<td>Sunday (D7)</td>
<td>-.0011235</td>
</tr>
<tr>
<td>Monday (D8)</td>
<td>.1218902</td>
</tr>
<tr>
<td>Tuesday (D9)</td>
<td>.0933435</td>
</tr>
<tr>
<td>Wednesday (D10)</td>
<td>.1253726</td>
</tr>
<tr>
<td>Thursday (D11)</td>
<td>.1136798</td>
</tr>
<tr>
<td>Friday (D12)</td>
<td>.1167764</td>
</tr>
<tr>
<td>Saturday (D13)</td>
<td>.0385877</td>
</tr>
<tr>
<td>Const.</td>
<td>1.448119</td>
</tr>
</tbody>
</table>

Note: Dependent variable is the log of the hours worked. Standard errors are in parentheses and are corrected for heteroskedasticity. Significance levels: *: 10%  **: 5% or better

Source: Own results

For example, Mondays, Wednesdays and Thursdays seem to be very “good” days for Bosnian and Herzegovinian entrepreneurs, with values around 0.1, while weekends are not very busy days, with small values being negative for Sundays with around -0.01, and being around 0.03 for Saturdays. Hence, Bosnian and Herzegovinian entrepreneurs either do not work on weekends or work shorter hours. After we included a dummy firm, we verified the differences among the firms, so that some firms work substantially more than others, where for example Firm no. 38 with a value of 2.01 seems to work considerably longer hours than, e.g., Firm no. 41, with a value of -3.08.

A very interesting observation can be made when we include the interactions of log daily wages with each of the controls. In this way, we found out how the relationship between the wage and the hours worked changes by increasing the variable experience, thus directly affecting the labour supply. In the table below (table no. 12) we presented the interactions of log daily wage * experience, and log daily wage * gender, and obtained a positive and significant coefficient for experience, based on which we can infer that, when the daily wages are higher, entrepreneurs with more experience work more compared to the less experienced ones.
### Table no. 12: Interactions of Experience and Gender Variables

|                      | Coef.  | Std. Err | P>|t| |
|----------------------|--------|----------|------|
| Log daily hours      |        |          |      |
| Log daily wage       | 0.0780072 | 0.0328065 | 0.017 ** |
| Log daily wage * experience | 0.0035453 | 0.001931 | 0.066 ** |
| Log daily wage * gender | 0.0278872 | 0.0485264 | 0.566 |
| Existece of firm     | 0.0011322 | 0.0019901 | 0.569 |
| Experience           | -0.0151217 | 0.0096814 | 0.118 |
| Gender               | -1.14891 | 0.2073864 | 0.580 |
| Employee             | 0.0319887 | 0.580 | 0.714 |
| Manager              | 0.0703631 | 0.0895022 | 0.432 |
| Owner                | 0.0377223 | 0.0959052 | 0.694 |
| Primary school       | 0.0846525 | 0.0884428 | 0.338 |
| High school          | 0.1337853 | 0.0898382 | 0.136 |
| Bachelor degree      | -0.0313749 | 0.0978901 | 0.749 |
| Age                  | -0.0015796 | 0.002408 | 0.512 |
| Const.               | 1.753483 | 0.1597601 | 0.000 |

Significance levels: *: 10% **: 5% or better

Source: Own results

### Conclusions and policy implications

The elasticity of labour supply with respect to the wage rate plays a critical role in many economic policy analyses. The manner in which variables are constructed solely from raw data can play an important role, the same way as the method applied for estimation, which have an impact on the estimates of model parameters, and finally on the estimated labour supply elasticity, plays an important role. In this paper, we estimated labour supply, which is sensitive to intertemporal variation in wages, which helps us to predict whether workers are willing to substitute labour and leisure intertemporally in some cases or follow the income targeting hypothesis. Therefore, we estimated the sign of wage elasticity in the case of Bosnian and Herzegovinan entrepreneurs in order to test the intertemporal labour hypothesis, according to which workers relocate their efforts intertemporally in response to anticipated wage changes, working more when wages are high and consuming more leisure when its price foregone wage is low. With the aim of testing the hypothesis empirically, we collected data by surveying 124 entrepreneurs in North-Western Bosnia and Herzegovina on their daily income earned and the hours worked. Through the survey we also collected data on entrepreneurs’ business strategy, motivation for running the business, household income and other information that helped us to understand the overall behaviour of Bosnian and Herzegovina entrepreneurs. As a result, we obtained a dataset with the most represented sectors: service, production, trade, and agriculture with mainly small-sized enterprises employing up to 5 employees. Additionally, 60% of entrepreneurs are purely interested in chasing profit, while 55% are working fixed hours regardless how busy or not busy the working day is and mainly do not work during the weekends. On average, the entrepreneurs surveyed work 8.64 hours per day and earn an average daily wage of 40€ (70 BAM). Also, the vast majority of the entrepreneurs surveyed have a quite low education level, with approximately 70% holding only a secondary school degree, or even a primary school one only. The average age of the entrepreneurs is 42, based on which we can conclude that entrepreneurship is regarded as rather unpopular among young educated people in Bosnia and Herzegovina. One possible reason for that is that educated people either work or search for jobs in the public sector because the wages are still higher in this sector, whereas...
another possible reason might be the brain drain with which Bosnia and Herzegovina is struggling. In addition to that, we identified a panel structure of the data and calculated the sign of wage elasticity, after which we performed relevant tests in order to decide the best fitting model, which in our case proved to be the random effects model corrected for heteroskedasticity by calculated robust standard errors. Since we obtained positive wage elasticity, we concluded that the hypothesis of negative wage elasticity and the daily targeting hypothesis in the case of Bosnian and Herzegovinian entrepreneurs has no empirical evidence. Hence, the wage elasticity is around 0.13, which proves the hypothesis of intertemporal substitution of labour supply (ISH), according to which we can say that an increase in wages leads to an increase of the hours worked and that Bosnian and Herzegovinian entrepreneurs tend to substitute labour and leisure intertemporally, with the main motive for running their business being chasing profits. Despite using the same estimation strategy as Camerer et al. (1997) used for estimating the labour supply elasticity of New York City taxi drivers, we obtained an opposing sign of labour supply elasticity. Thus, our results proved to be in accordance with the standard neoclassical model of labour supply, which can be explained by the country’s historical background and its difficult economic and political situation. After we proved the ISH, we can say that Bosnian entrepreneurs are planning their time horizons in a longer way, meaning that they apply a broader time horizon for their labour supply, thus rejecting the daily targeting hypothesis. Even though Bosnia and Herzegovina has the tradition of an industrial-based economy, the country was part of former Yugoslavia, where planned economy was dominant and privately-owned businesses practically did not exist. This might be one of the possible explanations of the results obtained, indicating entrepreneurs’ behaviour in terms of fixed working hours. Additionally, after the breakup of former Yugoslavia, Bosnia and Herzegovina was faced with huge burdens of war and a painful transition that has not been successfully completed even almost 20 years after the end of the war. Such an extended transition process resulted in an unfavourable business climate, making the country vulnerable to all sorts of negative spill-over effects, such as the current economic crisis which in Bosnia and Herzegovina lead to declines in FDI by 42.5% in 2011 and a drop in GDP real growth by around 2%. On top of that, the grey economy in BiH amounts to 36% (World Bank), with the wholesale and retail sector dominating the market and with very few production activities that create added value. All of the above is accompanied by poor development policies and legal framework and a lack of coordinated institutional support, which result in no job creation, no extension to foreign markets, and no poverty reduction in the country. We analysed various influence factors that have an impact on entrepreneurship skills, habits and working patterns that Bosnian and Herzegovinian firm owners follow and found that an international inflow of remittances could play an important role. Namely, they are estimated at around 3 billion € (6 billion BAM) and are 3 times higher than FDIs, and therefore serve as an important source of income for numerous households, not being channelled towards entrepreneurship, but rather towards current consumption. In the long run, remittances have a negative influence on the labour supply and have an impact on labour market decisions, which together with unstimulating policies and an unfavourable business climate result in a relatively low number of SMEs compared to the EU average. In Bosnia and Herzegovina, it is estimated that there are 8.3 SMEs per 1000 inhabitants, which is far below the EU average of 40 SMEs. Another possibility for interpreting the results obtained is that entrepreneurs may not report their income and the daily worked hours because they fear the regulation or intervention by the authorities, and grey economy and unreported income in Bosnia and Herzegovina is a well-known problem.
References:


