

On the Efficiency of Labor Market Reforms: How to Solve the Spanish Puzzle?

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Abstract

In this paper we shed light on the relationship between labor market policy, entrepreneurship and youth unemployment prior to and in the aftermath of the global financial crisis in Spain. We discuss the situation, where labor market and macroeconomic policies were largely inefficient in reducing high levels of (youth) unemployment after 2007. We rise the question why an increase in (youth) unemployment had been observed although the labor market becomes more flexible due to the associated structural reforms in 2010 and 2012. We call this the *Spanish Puzzle*. The main reason for this observation can be found in the phenomena of downward nominal rigidity, the existence of a liquidity trap and pessimistic private expectations regarding future economic developments. Given the recovery of the Spanish economy in 2015, this development is grounded on (besides the increase in private consumption and a trade surplus) several policy interventions in order to strengthen entrepreneurial activity in 2013. The corresponding boost in private investment expenditure can be identified as the sustainable main driver for job creation in the long run.

Keywords: Spain, Labor Market Policy, Entrepreneurship, Youth Unemployment, Macroeconomic Policy.

Journal of Economic Literature Classification: E24, E61, J13, L26.

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1 Introduction

The turmoil in the aftermath of the financial crisis has caused severe economic problems and structural changes worldwide. While the countries in the periphery of the Euro Area face a situation where output lies below potential, a constant rise in sovereign debt and enormous unemployment rates are observed. From our point of view the ongoing debate by economists and policy advisers, on which measurements — such as government spending programs and traditional (or even unorthodox) monetary policy interventions — are needed to stimulate global economic recovery, is mainly short-sighted. We claim that one of the most severe problems is the high unemployment rate in Southern Europe in the long-run.

Our emphasis is on the analysis of Spain as being a representative economy dealing with the high levels of unemployment. For Europe or, more precisely, the Euro Area we choose Spain over Greece, where the latter country in the European periphery exhibits also an incredible high rate of unemployment. However, Greece suffers from various structural economic problems linked to an inefficient degree of bureaucracy, political reforms and a depressive economic environment. Hence, it seems to be difficult to discuss youth unemployment and the associated interventions without a deep analysis of economic (or even political) transmission mechanisms in Greece. Instead, Spain slightly recovers after the financial crisis and the burst of the Spanish real estate bubble in 2007, which caused a phase of job destruction in the construction sector. Although the country has reimbursed (a fraction of) the financial assistance provided by Euro Area member states via the European stability mechanism (ESM) in order to stabilize its banking sector, Spain still has to tackle imminent labor market problems.

The objectives of this paper are linked to the understanding of policy interventions and unemployment in Spain. We focus primarily on youth unemployment and follow the definition of *youth* by the United Nations as the age group between 15 and 24 years, which is common in the literature. Figure 1 shows the development of the youth unemployment rate in Spain, the European Union, the United States and Germany from 1991 to 2013. For Spain we observe a strong decrease in youth unemployment in the aftermath of the 1993/94's recession compared to the other economic regions. This can be explained mainly by the boom in the construction sector due to the housing bubble. After the burst of this bubble as reaction to the financial crises in 2007/08, Spain experienced a dramatic increase in youth unemployment. In comparison the increase had been moderate in the entire European Union and the United States. A mirror image is given with respect to Germany, where youth unemployment had been unaffected by the crises and where the values even decrease since 2005. Furthermore, while the total labour

force participation has increased in Spain over the last decade, the participation rate of young workers in Spain has been declining; reaching a record low of 41.7% in 2013 (Jang and Sacht (2015)).

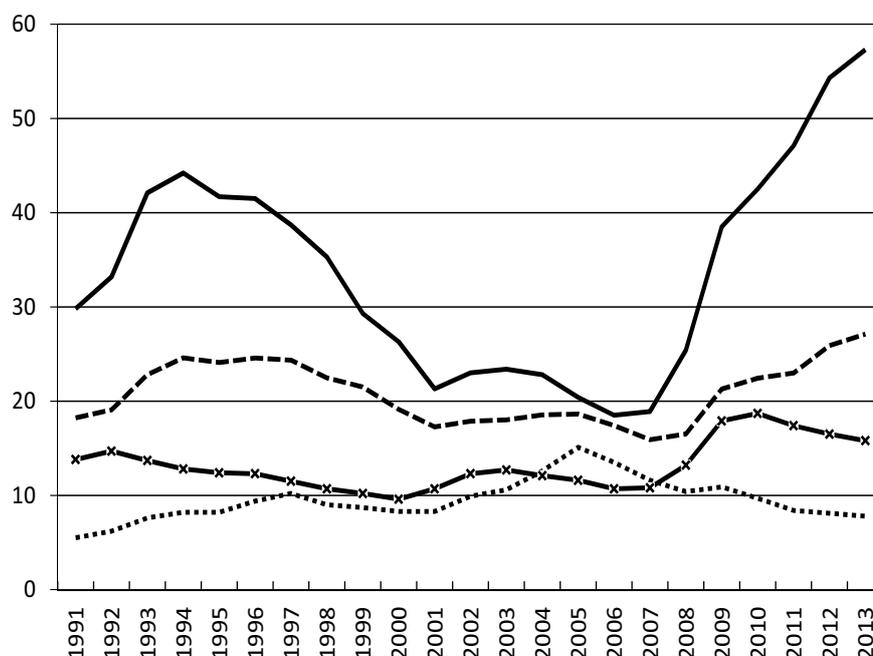


Figure 1: Development of the youth unemployment rate in selected countries and regions. (Source: World Bank World Development Indicators).

Note: The solid, dashed, solid/crossed and dotted line depict the youth unemployment (in % of total labor force ages 15-24) rate for Spain, the European Union, the United States and Germany, respectively.

It goes without saying that high rates of youth unemployment hinders the opportunities of future economic growth and stability. High labor market barriers for young adults and the loss of personal economic perspectives we judge as one of the main obstacles for sustainable and long-run recovery after the crisis in Spain. Indeed, the problem of high youth unemployment is not a recent phenomenon in modern economies. The notions of a young and unskilled labor force are commonly associated with a higher likelihood of a labor market mismatch. However, the recent increase in global youth unemployment is constrained by an economic slowdown and competition in the world economy, while young workers need to find their first job overseas or look for apprenticeship in foreign countries which economies are booming.

The Spanish government reacted to these developments through the implementation of the Royal Decree Law 10/2010. In its core, this labor market reform lead

to a relaxation of labor market barriers with respect to *duality*. The latter stands for the conflict of young (high-skilled) outsiders with temporary contracts versus older members of the labor force with permanent ones and a high degree of labor market protections. In particular, the rules of termination of contracts have been relaxed, costs of dismissal have been reduced and reductions on social security contributions have been determined. A further step with respect to the reduction in the costs of dismissal had been made by the Royal Decree Law 3/2012 which came into effect in February 2012. Based on this law employers are allowed to argue on the ground of projected losses and a permanent decline in income in order to displace employees with a lower compensation for 20 days' wages per year worked only (Corujo 2013). Furthermore, agreements on the business level become more important than global regulations, while firms are now allowed to resign from the collective bargaining process. With respect to the latter, the validity of these agreements is limited to one year after the expiry date (Horwitz and Myant (2015)). Henceforth we just mention the term *RDL* (Royal Decree Law) as acronym for both reforms in 2010 and 2012 if not stated otherwise. We show that these labor market policy interventions are not enough to restore a low level of (youth) unemployment in Spain.

Given these labor market reforms, the question arises why we still observe an increase in (youth) unemployment. We call this the *Spanish Puzzle* since at the first glance it seems to be counterintuitive that unemployment rises as the labor market becomes more flexible. We show that the main explanation for this observation is given by the phenomena of downward nominal wage rigidity, the existence of a liquidity trap and pessimistic private expectations regarding future economic developments. Note here that we especially mention the period from 2010 on, where since 2007, not surprisingly, the unemployment rate increased primarily due to temporary contracts held by the majority of young employees. It can be said that under consideration of high costs of dismissal, temporary jobs are the first to be terminated or not renewed during the crisis (Balaram (2014)).

Spain experiences an upward movement in production and economic growth since the beginning of 2015. Reasons for this development can be found in the increase of private consumption and a trade surplus due to the devaluation of the Euro. In addition we claim that the Entrepreneur's Act in 2013 contributes to the recent recovery to a large extent. This law covers policy measurements to strengthen entrepreneurship via the improvement in regulations and incentives for market entry of start-ups. The Spanish government therefore reacts to a low incentive of unemployed workers to capitalise their unemployment benefits for self-employed activities. The corresponding number has fallen by 11 % since 2008, where in 2012 only 145,000 people took the step into this direction (Balaram (2014)). We define *entrepreneurship* as the bundle of activities in order to start

and run a newly founded company, while for simplicity we see this expression being equivalent to a *start-up* enterprise. Besides training-on-the-job schemes, entrepreneurial activities subsidized by government officials seem to be promising in order to reduce unemployment with respect to the entrepreneur herself and the associated job vacancies to be filled by the start-up.

Note that entrepreneurial activity can not outrun the problem of downward nominal wage rigidity — where there is evidence for the latter in the Spanish case. However, newly funded businesses in the service sector with focus, for example, on biotechnology industry as well as telecommunication and internet services, can provide a new stimulus to employment of young (high-skilled) adults. These sectors exhibit enormous growth rates over the last two decades due to new information processing and technology shocks in general. Especially low-skilled members of the group of (young) unemployed people might profit by entrepreneurship as the establishment of a business goes along with jobs being created, which does not require higher educational training. In this respect, we identify the Entrepreneur's Act as a sustainable solution approach to the recent structural labor market problems in Spain in the long-run. In this paper we address the role of entrepreneurship in job creation, while analyzing the business challenges facing by entrepreneurs. Our paper is closely related to the work of Jang and Sacht (2015). In their paper there is no deep analysis with respect to the Spanish economy but a comparison study with focus on Spain and South Korea instead.

The remainder of the paper is structured as follows. In the next section we discuss the macroeconomic situation in Spain before and during the Great Recession period with special emphasis on (youth) unemployment. In section 3, we are going to explain theoretically why the RDL did not amplify job creation in Spain, while the Entrepreneur's Act can be judged as being a successful policy measurement in this regard. In section 4 we shed light on the business environment in which entrepreneurs and start-up activities can help to overcome the Spanish Puzzle through an increase in the employment rate of young workers. In section 5 we develop solution strategies addressed to policy advisers in order to stimulate entrepreneurship along with further job market interventions for young workers. We conclude in section 6.

2 Macroeconomic Development in Spain

Table 1 shows the development of the main economic indicators for Spain over the period 2003-2014. In the so-called *pre-crisis* period from 2003 to 2007, Spain exhibits a moderate growth in GDP (second column) on an annual basis along

with an inflation rate (seventh column) around 3%, which turns out to be higher than the European Central Bank's (ECB) inflation target of (below but close to) 2%. Although the short-term nominal interest rate (expressed through ECB's instrument for main refinancing operations) remains almost unchanged on a high level, the boom in the construction sector with respect to real estates has caused an acceleration in housing prices within this period (IMF (2011)). The massive investment in real estates is mimicked by the sharp decrease in the current account balances for the years from 2005 until 2007 (fourth column). The degree of openness expressed by the trade ratio in percentage of GDP has increased slightly during this period (fifth column). Given the latter observation along with high annual GDP growth, the total unemployment rate shrank by 3% over the whole time period (eleventh column). However, while it seems that labor market policy was successfully established in the pre-crisis period, this development was heavily grounded on the boom in the construction sector. A decrease of 4.5% in the youth unemployment rate indicates that the labor market segment for young adults between 15 and 24 had improved more than the total number of unemployed people (twelfth column). Despite its positive development on the labor market, both unemployment rates are higher than the natural rate, which can be commonly indicated by a value of 4-5%. It goes without saying that this situation is more severe for young unemployed people, where the corresponding unemployment rate is around 10% larger than the total one.

A reason behind this dire situation regarding the Spanish labor market can be found in the existence of *downward nominal wage rigidity* as an evidence for structural labor market failures. As a general definition of this phenomena, nominal wage growth is (only weakly) procyclical in (downturns) expansions (IMF (2015)). According to our observations presented in the eighth column of Table 1, downward nominal wage rigidity indeed occurs in the Spanish case. This is also confirmed by Font et al. (2015) who provide evidence on significant downward (real) wage rigidities in Spain explained by much lower wage cyclicality in recessions than in expansions. As the nominal wage turns out to be downward rigid, we observe a decline in the average annual real wage on a moderate level by 4.5 % from 2010 to 2014 only (ninth column). This reduction could stem from the changes in the reservation wage due to the very high level of total unemployment and/or composition effects (IMF (2015)). It can be concluded from this that nominal wages do not react sufficiently in response to economic developments as being expected by the improved flexibility in the collective bargaining process due to the RDL. Hence, this kind of rigidity reflects a labor market barrier. Schmitt-Grohé and Uribe (2013) also report a monotonic increase in the nominal hourly wages for Cyprus, Greece, Ireland and Spain up to 2011. In their study they suggest that an increase in inflation around 4% in the Euro

	GDP Growth (in %)	Private Investment Growth (in %)	Current Account Balance (% of GDP)	Trade Ratio (% of GDP)	Short-Term Interest Rate (in %)	Inflation Rate (in %)	Hourly Wage		Annual Minimum Wage (in USD)	Unemployment Rate (in %)	Youth Unemployment Rate (in %)
							Nominal (Index)	Real (in Euro)			
2003	3.09	6.72	-3.50	55.01	2.33	3.04	77.18	26052	4.9	11.3	22.7
2004	3.26	6.62	-5.20	55.87	2.11	3.04	80.15	25742	5.0	11.0	22.0
2005	3.58	8.27	-7.37	56.60	2.19	3.37	82.93	25890	5.3	9.2	19.7
2006	4.08	8.62	-8.97	58.94	3.08	3.52	86.51	25818	5.3	8.5	17.9
2007	3.48	3.90	-10.0	60.53	4.28	2.79	90.13	26157	5.5	8.3	18.2
2008	0.89	-4.50	-9.70	58.81	4.63	4.08	94.12	27145	5.6	11.3	24.6
2009	-3.83	-19.96	-4.80	49.76	1.22	-0.29	99.39	28848	5.8	18.0	37.9
2010	-0.20	-4.12	-4.51	56.88	0.81	1.80	100.00	28152	5.8	20.1	41.6
2011	0.05	-7.54	-3.79	62.74	1.39	3.20	102.24	27604	5.7	21.6	46.4
2012	-1.64	-9.82	-1.14	64.55	0.57	2.45	102.17	26870	5.5	25.0	53.2
2013	-1.22	-7.21	0.80	65.84	0.22	1.41	104.05	27004	5.5	24.5	56.1
2014	1.40	4.11	-	-	0.05	-0.15	102.52	26884	5.5	23.7	51.4

Table 1: Macroeconomic Patterns and Trade Balance in Spain over the Period 2003-2012 (Sources: DSI Rheinberg's Global Economic Indicator, International Monetary Fund, OECD and World Bank World Development Indicators).

Note: The Inflation rate is given in terms of the Consumer Price Index. The base year of the series for nominal hourly wages (eighth column) is 2010. The hourly real wage (ninth column) is given on average in 2014 constant prices. The hourly minimum wage (tenth column) is given in 2014 constant prices at 2014 US Dollar purchasing power parity. Non-available entries are marked with '-'.',

Area could help the countries of the European periphery to reduce downward wage rigidity. We will discuss this potential solution approach in a later section. However, a target value of 4% is empirically out of range, as according to the seventh column of Table 1 the inflation rate becomes even negative around -0.15 % in 2014.

Downward nominal wage rigidity alone does not account for the high rate of youth unemployment. One of the major characteristics of the Spanish labor market is given by the amount of *temporary jobs* for young employed people (Balaram (2014)). In 2008, the rate of a temporary contract was about 59%. The average time to find a fixed term position is about six years. It has been widely seen that the rate of temporary contracts was already higher than 40% in the recession periods from 1984 until 1987 and 1993/94 (see again Figure 1 for the latter). According to the young-adult unemployment ratio, the lower bound of this value is around 2 over the past 25 years. Hence, it can be said that youth unemployment is a common phenomenon of the Spanish labor market.

Overall, long-term youth unemployment has been tripled since the burst of the housing bubble in 2007 (Sánchez (2012)). The reasons for this observation are manifold. The economic upward movement accounts for one third of the total amount of jobs created in the EU (Corujo (2013)). However, after the bubble had burst, 66% of the jobs for young employees in the construction, manufacturing and sales sectors became lost between 2008 and 2012. No recovery of these (primarily) temporary jobs could be observed over this period as reported in Sánchez (2012). The author states that those job contracts, which prevailed during the crisis, had been adjusted with respect to a change in the working time agreement. This is confirmed by Horwitz and Myant (2015) who show that the average number of hours worked per full-time employee increases rather than decreases as being expected based on the RDL.

This development in the number of temporary contracts is explained by structural issues. First, employers face a minimum wage for a 19-year old workers of around 1009 US Dollar per month, according to the World Bank project 'Doing Business'.¹ With respect to a ratio of the minimum wage to the value added per worker given by 0.27, this number is one of the highest among the OECD countries (OECD(2014)). The tenth column of Table 1 reports the development in the hourly minimum wage. It can be seen that the numbers strongly increase up to 2010, the year the Royal Decree Law 10/2010 took place, followed by only a slight

¹ The interested reader might check on <http://www.doingbusiness.org/data/exploretopics/employing-workers> for further information.

reduction until 2012. Two years later, the minimum wage exhibits the same values as in the beginning of the crises in 2007. Second, a maximum length of a single fixed-term contract is 36 months depending on the type of a particular task. Along with a high degree of firing costs, the limitation of the fixed-contract length can be interpreted as market barriers for young unemployed people since it is commonly associated with a high degree of job turnovers. The latter effect applies most likely to young employees, who gain their first job experience, i.e. basic skills in order to fulfill specific tasks related to the position. Hence, employers will expect to lose experienced (and thus productive) workers after the contract lengths had been expired which makes the unemployment of young people less attractive.

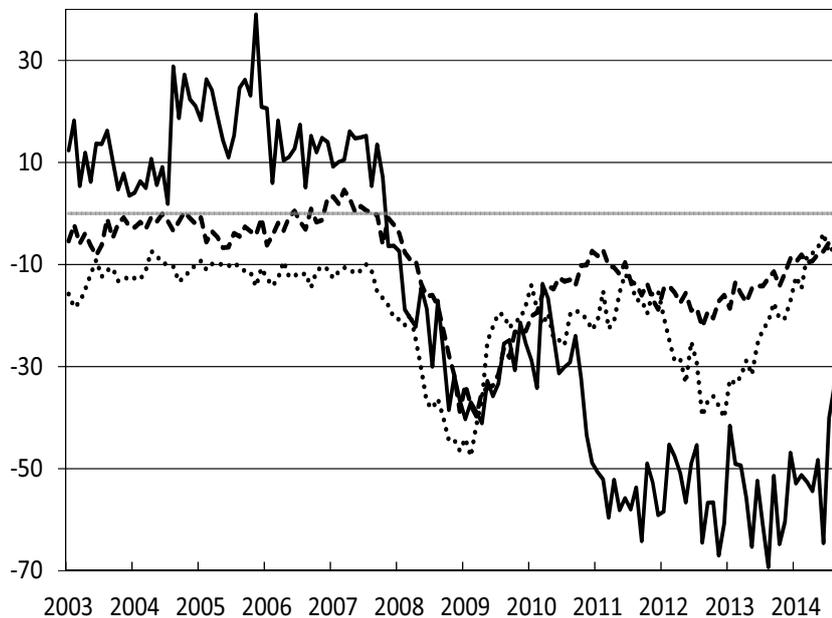


Figure 2: Sentiments in selected economic sectors based on business and consumer surveys. (Source: European Commission/DG ECFIN).

Note: The *solid*, *dashed* and *dotted* lines depict sentiments in the *construction*, *industry* and *private consumption* sector, respectively. All data is seasonally-adjusted. The numbers on the left scale represents aggregate balances, which are calculated as the difference between positive and negative answering options in the survey. Balances are measured as percentage points of total answers and vary within a range of +100 (very optimistic) and -100 (very pessimistic).

The absence of a recovery can mainly explained by *pessimistic expectations regarding future economic developments*. According to Figure 2 below, the Directorate-General for Economic and Financial Affairs (DG ECFIN) reports

negative sentiments in selected sectors for the after-crises period based on harmonised business and consumer surveys.² We observe a decrease across all sectors, where the reduction in the aggregate balances is more pronounced in the private consumption sector. Between 2009 and 2010 expectations become less pessimistic again as aggregate balances go up, while after 2010 especially construction sector's expectations vary on a low level of aggregate balances. It can be concluded from this observation that agents' expectations turn out to be strongly pessimistic until the recent boom period of 2014 (as we discuss below).

Keeping these characteristics of the Spanish labor market in mind, from 2008 until 2013 — we call this simply the *after-crisis* period — the country suffers from an incredible and massive increase in the rate of unemployment up to 24.5% in 2013. From the last column of Table 1 it can be seen clearly for the same year that the situation on the labor market for the youth is becoming dramatic by observing an value of 56.1% for this specific unemployment rate. After the real estate bubble had burst in 2007, foreign financial investment decreases rapidly according to the changes in the current account balance. In total, the GDP growth rate became negative for most of the after-crisis period, while this severe downward movement had been dampened by the increase in the trade ratio and a period-to-period decrease in the short-term nominal interest rate. The latter observation stands for a quite expansionary monetary policy impulse coming from the ECB. However, several studies show that the transmission channel of monetary policy is hindered due to the unwillingness of private institutions to lend money (see Al-Eyd and Berkmen (2013) as well as Ciccarelli et al. (2013) among others). In particular, Bouis et al. (2013) conclude from empirical observations for several OECD countries (including the Euro Area) that credit growth is subdued due to considerable balance sheet adjustments of financial companies. Along with uncertainty in economic development, this have a negative effect on banks' capacity and willingness to supply credit.³ Furthermore, with respect to business activity, the empirical contributions from Bloom (2009) indicate that at a high-level of uncertainty firms become very cautious and less sensitive to policy interventions, where the latter turns out to be less effective. While private investment dried up

² The DG ECFIN questions 2300, 2000 and 380 members of the industry, private consumption and construction sector, respectively, where the sample size is generally positively related to the respective population size of Spain. Qualitative questions refer for instance to expectations about production and employment (industry sector), the scarcity of building activity (construction sector), households' financial situation and expectation regarding the general economic situation (private consumption). All information on the methodology is given in the user guide by DG ECFIN (2007). With focus on consumer confidence, Dées and Brinca (2013) state that this kind of sentiment indicator be a good predictor of private consumption.

³ The financial assistance of EUR 38.9 billion for bank recapitalisation has been provided from July 2012 to December 2013.

(see the third column of Table 1 for details) , the Spanish government was able to successfully consolidate government debt, instead of boosting economic recovery by government expenditure itself. Hence, the ineffectiveness of monetary policy under existence of lower-zero bound of the nominal interest rate, can be construed as a *liquidity trap*.

Empirical evidence for 2014 and the beginning of 2015 reports an economic recovery in Spain. The entries in the last row of Table 1 show that economic growth is around 1.40 % for 2014, while there is a small (moderate) decrease in (youth) unemployment down to 23,7 % (51,4 %). With respect to business fluctuations, Corujo (2013) claims that an 1% increase in the growth rate of GDP is required for a positive stimulus on job creation in Spain. While this level of growth is not obtained from 2008 until 2013 — again, the GDP growth rate had been negative for almost the entire after-crises period — the development in 2014 indicates a spark of hope for a sustainable decline in unemployment among all age groups.

Two out of three pillars of this recovery can be identified by the increase in real private consumption expenditure and a trade surplus (both times series not shown in Table 1). Real private consumption expenditure had dropped within the after-crisis period, where data provided by DSI Rheinberg's Global Economic Indicator (DSI for short) reports annual percent changes (in constant prices) over this time span around -0.28% on average. However, in 2014 the change is given by 1.35% , making this year the first one with a positive growth rate since 2011. With respect to the trade surplus, according to the same data base, exports increased slightly since 2012, while imports remained almost unchanged over the same time interval.

The last cornerstone for the upwards movement is given by the recent boom in real private investment expenditure. According to the third column of Table 1, the annual percent changes (in constant prices) report a dramatically high number of -8.86% on average for the after-crises period excluding the year 2014. For the latter we observe a strong increase by 4.11% instead. We claim that this stimulus has its origin in the implementation of the *Entrepreneur's Act* in 2013. The reversal in investment activity can be seen as the most sustainable solution to the *Spanish Puzzle* and can be interpreted also as a change from pessimistic to optimistic expectation formation regarding investment decisions. For the later note, again, the upward movement in agents' sentiments in 2014 according to Figure 2. On the one hand private consumption relies heavily on households' expectations and benefits from the temporary decrease in the oil price. With respect to the latter recall that inflation becomes even negative at a

rate of -0.15% , i.e. a deflationary environment can be identified which will be not long-lasting according to the ECB's forecasts (ECB (2014)). On the other hand, the movement in the exchange rate depends heavily on the development of the European sovereign debt crises and, hence, turns out to be hardly predictable.

We are going to combine the effects by the Entrepreneur's Act under consideration of pessimistic private agents' expectations, downward nominal wage rigidity and the liquidity trap in a theoretical framework in the next section. Based on the empirical observations presented here, we first shed a light on the impact of the RDL first.

3 Labor Market Reforms and Entrepreneur's Act

We claim that the labor market reforms in Spain failed to reduce the high unemployment rate in Spain. The reason can be found in the observed downward nominal wage rigidity, the ineffectiveness of monetary policy in the liquidity trap and pessimistic private agents' expectations. In order to show this we undertake a graphical analysis in the well-known AD-AS framework. Although there exist more elaborate macroeconomic models in order to analyse the impact of supply and demand shocks, for our purpose the AD-AS one keeps this analysis sophisticated simple. Figure 1 represents the aggregate demand (AD) and aggregate supply (AS) curves, respectively in a price (P) and income (Y) diagram. The AD curve has a negative slope until the liquidity trap is reached. Along the price-elastic path, a decrease in the price level leads to a downward adjustment of the nominal interest rate in order to stimulate private investment. At a certain point the further price reductions can not be offset by a reduction in the nominal interest rate since the latter reached the lower zero bound. On the supply side, the phenomena of downward nominal wage rigidity leads to a positive slope of the AS curve: an increase in the price level will let the real wage decrease and, hence, reduce the excess supply on the labor market. Note here that it is assumed that the nominal wage is not only downward but also upward rigid in an unemployment situation. Upward rigidity of the nominal wage holds due to the limited power of labor union to negotiate on higher nominal wages when an excess supply on the labor market is observed.

The impact of the RDL can be interpreted as a reduction in the non-wage labor costs (L). An overview of the corresponding main characteristics of both reforms can be found at the top of Table 2. A decrease in non-wage labor costs resembles e.g. a reduction in social security contributions and costs of dismissal together with an increase of flexibility regarding the collective bargaining process. Within the AD-AS framework, as we can see from the left panel of Figure 3 we reach

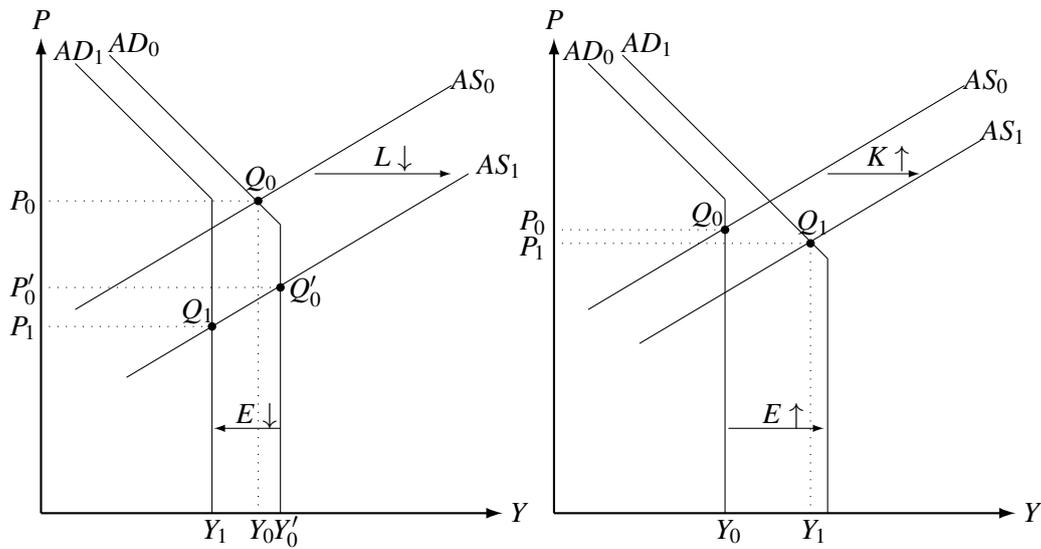


Figure 3: Comparative-Static Analysis in the AD-AS framework.

Note: The Figure display the changes in aggregate demand (AD) and supply (AS) in response to the RDL (left picture) and the impact of policy interventions regarding the improvement in Entrepreneurial activity (right picture) in a price(P)/income(Y) diagram. L , E and K stand for non-wage labor cost, agents' expectations and a technology shock, respectively. The points of equilibrium are marked with a Q_i with $i = \{0, 1\}$.

the equilibrium point Q'_0 as the AS curve shifts to the right since the cost of labor decreases. Here, an increase in the level of GDP (Y) is observed, where the excess supply on the goods market causes a decrease in the price level. According to the AD-AS framework, the central bank lowers the nominal interest rate in order to trigger an increase of the price level, i.e. aggregate demand is increasing by a boost in private investment. In reality, however, this change in the nominal interest rate mimics the global reaction of the ECB to the price dynamics in the Euro Area and not to the Spanish economic situation alone. After all adjustments occurred, the new equilibrium point Q'_0 is reached in the liquidity trap, where no further increase in private investment can be applied due to the zero lower bound. It seems to be obvious that the RDL has a positive effect on employment and GDP up to this point.

The question arises how a decrease in GDP and, hence, an increase in unemployment can be explained after the Royal Decree Law 10/2010 had been implemented. The reasons can be found by i) downward nominal wage rigidity, ii) the ineffectiveness of monetary policy in the liquidity trap and iii) the slump in private investment due to pessimistic expectations. We show this by a left shift of the AD curve since agents' expectations E (including but not limited to investment revenues) become intensively pessimistic. This is mimicked by the developments of the sentiments shown in Figure 2 and the negative values for investment growth in the third column of Table 1.⁴ Given the reduction in the non-wage labor cost we end up in the final equilibrium point Q_1 . In this situation the massive decrease in aggregate demand causes a further decrease in the price level. Given downward nominal wage rigidity the real wage increases which leads to an increase in the excess supply on the labor market, i.e. the unemployment rate increases. It can be concluded that the positive effect by decrease in the non-wage labor costs is overcompensated by the negative effect of the slump in private expectations.

The adjustment from the equilibrium point Q_0 towards Q_1 , where we observe both a lower price and income level, describes the so-called *Spanish Puzzle*. As a potential solution to the latter, a supply-side oriented policy to support entrepreneurial activity in order to boost labor demand seems to be fruitful. In fact, the Spanish Entrepreneur's Act from 2013 lead to an improvement in the regulations and incentives for a market entry of start-ups. The corresponding measurements are shown in the bottom of Table 2. In translation to the AD-AS framework, the right panel of Figure 3 shows that in this case we observe a rise in the income, while the price level declines. We assume that newly founded

⁴ Alternatively a decrease in the money supply can be assumed, which mimics the seasoning of the inter-bank market via the credit channel. In this case we also observe a left shift of the AD curve due to the Keynes effect, i.e. a decrease in private investment.

Royal Decree Law (RDL) 10/2010 & 3/2012	
<i>Type</i>	Labor market reforms
<i>Target</i>	Relaxation of labor market barriers in order to reduce duality
<i>Date</i>	June 16th of 2010 / February 10th of 2012
<i>Main</i>	<ul style="list-style-type: none"> · Modernization of the procedures for displacement and the modification of working conditions · Suspension of contracts and temporary reduction of hours in crisis situations simplified · Rules of termination of contracts have been relaxed · Costs of dismissal have been reduced (extending the scope of indefinite contracts) · Extension of the possibility of not paying the wage for companies in crises · Reductions on social security contributions · Opt out from and stop applying collective agreements (2012) · Extension of trial period of new workers to one year (instead of six/two months; 2012) · Reduction in severance payment (fair dismissals) and monetary compensation (unfair dismissals; 2012)
<i>Characteristics</i>	
Entrepreneur's Act	
<i>Type</i>	Supply-side oriented policy
<i>Target</i>	Improvement in the regulations and incentives for a market entry of start-ups
<i>Date</i>	September 27th of 2013
<i>Main</i>	<ul style="list-style-type: none"> · Granted residency visa for foreign investors · Possibility to postpone payment of VAT (as relevant invoice had been duly paid) · Less capital requirements for limited liability companies · Limitation of the personal liability of debts · Reduction on the payment of relevant social security contributions for newly self-employed individuals · Improvement in bureaucracy (e.g. when hiring foreign personal)
<i>Characteristics</i>	

Table 2: Overview of the Royal Decree Law (RDL) 10/2010 and 3/2012 and the Entrepreneur's Act.

companies (as they remain on the market and do not exit) introduce and utilize new technologies in the production process. This technology shock (K) leads to an increase in the productivity of capital and, therefore, in aggregate supply, i.e. the AS curve shifts to the right due to an implementation of new technologies. An indication for this development is given by the decrease in inflation after 2012 (to see this consider the last two entries in the seventh column of Table 1). The whole adjustment process will be incomplete without an improvement in the expectation on investment revenues (E). The latter follows simply from the need of entrepreneurs to invest in capital in order to start the business. Obviously, no change (or even a decrease) in E seems to be counterintuitive since in this case an entry of a new firm goes along with an expected zero (negative) return on investment. This view is consistent with the upward movements in the sentiments since 2013 shown in Figure 2.

Three final comments regarding our analysis above must be made. First, a stimulus by an increase in government spending over a supply shock might be preferred. While monetary policy becomes ineffective in case of a liquidity trap, fiscal policy might boost aggregate demand and prices, i.e. the AD curve would shift to the right. The question arises if there is some room for such a maneuver for the Spanish government when facing a tight situation in times of fiscal consolidation. The 2014 value of 92,1 % for the Spanish debt-to-GDP ratio raises some doubt that a fiscal package on a higher magnitude can be initiated. In comparison, with respect to a relaxation of law regulations towards the market entry of entrepreneurs, this measurement consists on lower costs. Hence, a mix of both (macroeconomic) policy interventions, i.e. a demand and a supply stimulus can be seen as a promising measurement to be undertaken.

Second, it can be argued that the effects of the labor market reforms, especially by the Royal Decree Act 3/2012, will occur with some delay. While time lags are characteristic for structural reforms, several observations raise doubts regarding a delayed impact of the RDL. First, while the share of temporary employment in % of total employment decreases (IMF (2015)), it increases in newly issued contracts until the end of 2014 (Horwitz and Myant (2015)). The former observation is consistent with the one made by the OECD (2013) which reports a significant increase in the monthly probability of individual transition from unemployment to permanent employment by 14 % already in March 2013, i.e. only one month after the law had been implemented. Hence, the Royal Decree Law 3/2012 lead shortly to a recent increase in the number of permanent contracts. However, it seems to be that young unemployed people do not benefit by this development since the corresponding youth unemployment rises in 2012 and 2013. At the same time the total unemployment rate decreases only by a small amount, where the IMF (2015)

state that “there is no evidence yet for any improvement in matching efficiency between vacancy and the unemployed”. To sum up, several studies report evidence for a short-term impact by the RDL but the rise/stagnation in total and youth unemployment over a period of 12 quarters from 2010 to 2013 still questions the efficiency of these reforms. This holds especially under consideration of the recent recovery grounded on the rise in investment and private consumption, which might lead to a distorted image on the efficiency of the RDL.

Finally and most importantly, the magnitudes of the technology shock and the increase in investments are not entirely clear *ex ante*.⁵ Newly founded and successful firms can enhance the opportunities of job creation. In fact, Haltiwanger et al. (2013) show for the US that 3 % of new job are created by start-ups in the US per year. Awogbenle and Iwuamadi (2010) as well as Salemi (2011) report equivalent results for developing countries. On the contrary, start-ups as sources of job creation are inherently volatile with a high exit rate. Haltiwanger et al. (2013) report that about 40 % of the jobs initially created by start-ups between 1992 to 2005 have been eliminated by exit. On the contrary, the authors claim that those early firms, which survive in turbulent times, can grow more rapidly than older ones. This can be explained most likely by the economies of scope effect and, hence, the efficient use of new technologies. In this respect, the government should create and maintain a stimulating business environment for start-ups in order to increase their life span conditional to the natural selection of the best firms in a market-oriented economy. Hence, we claim that a policy measurements like the Entrepreneur’s Act from 2013 accounts for long-term sustainable economic growth based on entrepreneurial activity. This, however, depends on the conditions, start-ups are confronted with. We discuss this issues in greater detail in the following section.

4 On the Business Environment of Entrepreneurial Activity

As we turn to an investigation of the business environment of entrepreneurs, the focus is on the investment in start-ups and the associated costs. According to the World Bank ‘Doing Business’ project, which provides annual data on registrars of newly registered companies with limited liability, the corresponding number decreases by 39,2 % between 2007 and 2012. Data on funding sources as government (e.g. financial support by the European Union) and private funds

⁵ This statement has to be revised for situation in the beginning of 2015. Note here that given the recovery of the Spanish economy, the upward movement in the GDP growth rate is mimicked by a stronger shift of the *AD* curve to the right due to the increase in private consumption (expectations) and the trade surplus. The impact of the latter, however, requires an analysis in a modified AD-AS framework for an open economy.

like bank loans are not available in detail for this period. Therefore, we focus only on the total amount of venture capital and number of companies, which receive the former at the seed, start-up and later stages. Here, the ‘seed’, ‘start-up’ and ‘later’ stages define the periods ‘before’, ‘at time of’ and ‘after’ the establishment of the start-up, respectively. The corresponding numbers are given in Figure 4.

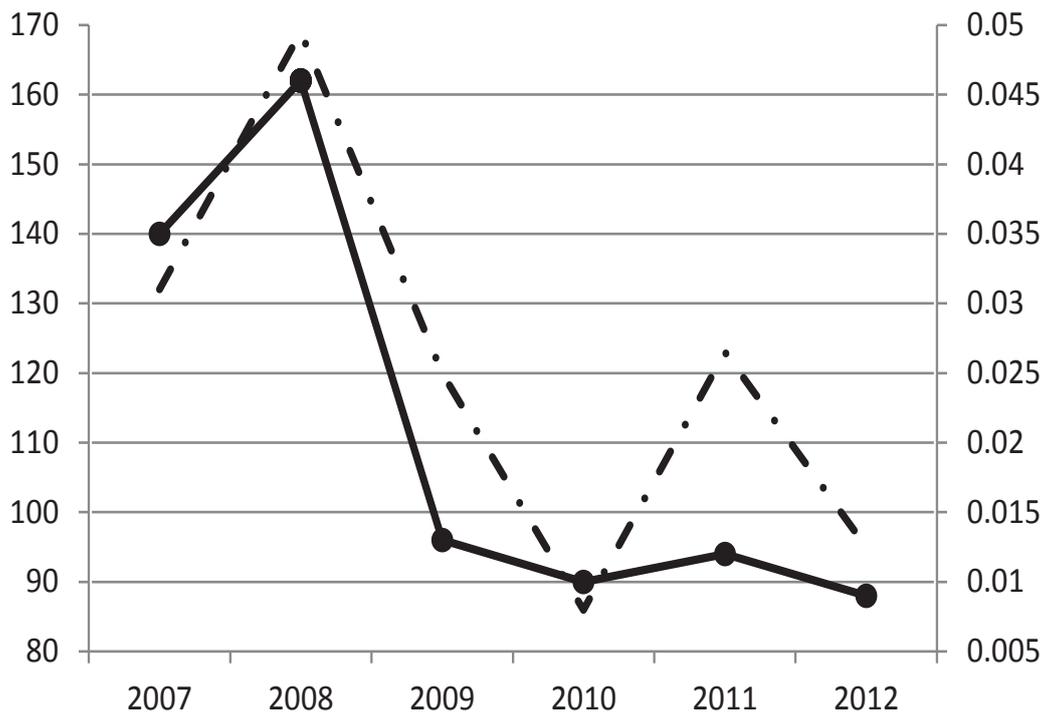


Figure 4: Number of Companies and Total Venture Capital in Spain (Source: European Union).

Note: The solid line depicts total venture capital at the seed, start-up and later stages in % of GDP (right scale). The dashed-dotted line depicts the number of companies which received venture capital at the seed, start-up and later stages in absolute values (left scale).

Obviously, the number of companies is positively correlated with the amount of venture capital. It can be argued that entrepreneurs in Spain have to deal with a tense situation when it comes to market entry. This can be probably explained by the strong decrease in total venture capital in the percentage of GDP received on all three stages over the whole period since 2007. This observation indicates that the process of starting a company has been terminated throughout the stages over time, in which neither entrepreneurial projects are promising (or better: efficient) enough to boost the market entry (after the seed stage) nor they are substantially

successful (after the start-up stage). While the numbers are indeed quite low for Spain, it must be emphasized that numbers in the range of 0.001 to 0.050 account for a tightness in private financial investment capacity with respect to start-ups in all countries of the European Union (EU) on average. In particular, the amount of Spanish companies, which had managed to gather start-up capital, is distinctively less in relation to new firms in the same situation across the EU, where e.g. the number of new firms in Germany (as a proven economic role model for job creation in the EU) is 6 to 8 times higher in comparison over the whole period from 2007 until 2012.

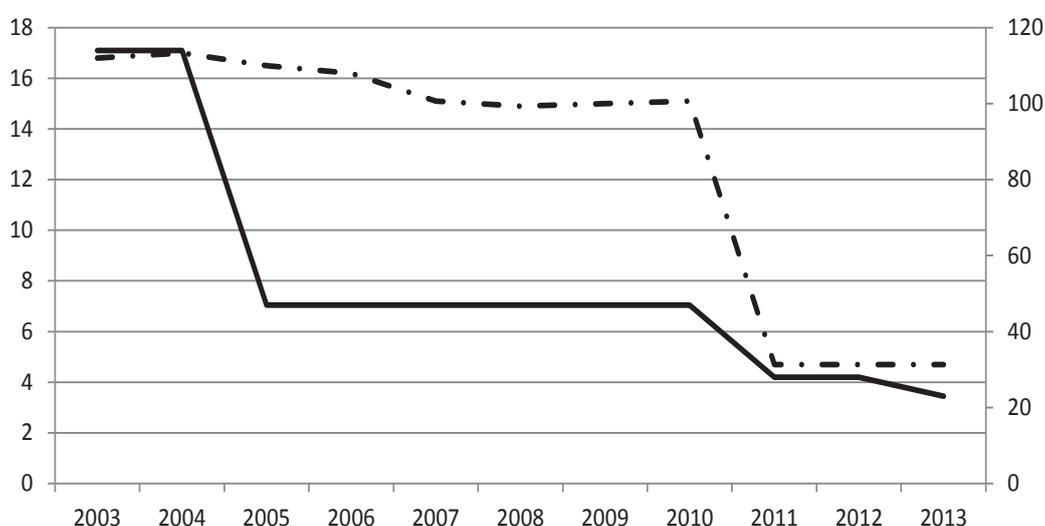


Figure 5: Important Indices related to entrepreneurship in Spain (Source: World Bank World Development Indicators).

Note: The solid line depicts the time in days required to start a business in days (right scale). The dashed-dotted line depicts the cost of business start-up procedures in % of GNI per capita (left scale).

Under consideration of the Entrepreneur’s Act in 2013, this policy measurement had been implemented at the right time: it improved the situation of start-up through a better access to venture capital by e.g. less capital requirements. Indeed, the Entrepreneur’s Act might help to overcome the stagnation in the *strength of legal right index*. The latter measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. This index remains on a moderate level in Spain from 2003 until 2013. In other words, there had been room for improvements regarding collateral and bankruptcy laws being better designed to expand access to credit.

One main characteristic of the Entrepreneur’s Act is given by the improvement in bureaucracy *procedures* related to the founding of a new firm. Here, procedures

are defined as any interaction of the company founders with external parties (e.g. government agencies, lawyers, auditors or notaries). While the amount of procedures in Spain remains high given in relation to the EU countries on average (ten versus five procedures), empirical evidence shows, however, that the business environment in Spain improved in this respect already before 2013. The development of the corresponding indices are given in Figure 5.⁶ These numbers indicate that the implementation of steps in order to start a company becomes less costly, where we observe a strong decrease in the *cost of procedures* by 12.1 % of the gross national income (GNI) per capita from 2003 until 2013. Furthermore, it takes much less of *time* (measured in days) until a start-up is established. The erosion in this number is remarkable, where over a period of 10 years a time saving of one quarter occurs. Figure 5 allows for a positive statement about a successful establishment of start-ups — at least from a legal point of view. Again, it seems that policy makers had already implemented large improvements in the administrative procedures related to entrepreneurship before 2013.

5 Proposals for Policy Interventions in the Future

Based on our analysis we claim that entrepreneurship has the potential to reduce the high level of (youth) unemployment in Spain. For a more efficient policy interventions we propose the following policy advises, where we put our emphasis on the connections along the dimensions of labor market barriers and the market entry of entrepreneurs.

As one of the main problems with respect to youth unemployment, Spain lacks of institutional characteristics for *apprenticeship*, which ensure a smooth transition from school to work. In other words, this part of the Spanish educational system is not connected to the countries' labor market programmes, e.g. the successful workplace training-on-the-job scheme as being implemented for e.g. in Germany (Ryan (2011)). On both the local and global levels, policy makers had been already aware of these shortcomings. The Spanish government initiated several laws besides the RDL in order to target the promotion of vocational training under the provision of the education system (Royal-Decree Law 1529/2012) and the stimulation of employers for job creation with respect to young unemployed people simply by associated financial incentives (Royal-Decree Law 4/2013) as reported

⁶ All numbers (including those for the 'strength of legal right index' and 'procedures') are again provided by the World Bank project 'Doing Business', where the definitions in the remainder of this section are directly taken from. The interested reader may visit <http://www.doingbusiness.org> in order to get detailed information on the underlying assumption and overall methodology. The theoretical basements for the installment of these indices can be found in Djankov et al. (2002, 2007).

in Balaram (2014).

However, these measurements turned out to be less successful due to more severe structural issues on the Spanish labor market (as we discussed in the previous Sections). A more promising attempt could be the recent so-called ‘Youth Guarantee’ programme by the European Commission, which might help to reduce high youth unemployment rates by the implementation of apprentice systems, offering wage subsidies and to support start-ups.⁷ Therefore, we call for a stronger emphasis on apprenticeship as a cornerstone for a new designed labor law, which helps to amplify the positive stimulus generated by the Entrepreneur’s Act. More precisely, we propose that the limitation of a contract’s runtime should be directly connected to a training-on-the-job scheme for young members of the work force.

Furthermore, we would like to motivate an intensive discussion on the level of the *minimum wage*, which can be seen as a direct barrier to labor market entry for young unemployed Spanish people. According to our empirical observations in Table 1, the minimum wage remains on the same level as in the beginning of the crisis. Hence, it can be concluded that the labor market reforms had been not successful enough in order to reduce the minimum wage substantially. The existence of a minimum wage is closely related to the phenomena of downward nominal wage rigidity. Here, we claim that a temporally increase in the inflation rate by 4%, which is suggested by Schmitt-Grohé and Uribe (2013), is not relevant for the Euro Area. Instead we believe that the establishment of such an increase in inflation might lead to disturbances in the economic transmission channels across all EU member states, where different inflation rates are observed. This heterogeneity in the inflation rates becomes more important to be considered as the temporally increase will be cut back to the common level of around 2 % after some period of time as suggested by Schmitt-Grohé and Uribe (2013). Most importantly, such a high rate will create also a distortion in the debtor/debtee relationship. This rises two important questions. First, what will be the effect on private consumption as real income declines? Note here that private consumption can be identified as one of the main driver of the current short-run recovery in Spain as argued in the paper. Second, is a (massive) reallocation in wealth due to a high inflation rates preferred politically? Besides the heterogeneous effects of monetary policy on the Euro Area member states, we claim that these two questions (among others) show that the evaluation of this potential solution of high inflation rates is not straightforward.

⁷ The initiative “calls on member states to ensure that all young people under 25 receive a good quality offer of employment, continued education, an apprenticeship or a traineeship within four months of leaving formal education or becoming unemployed” (European Commission (2012)).

For Spain we propose to reduce the minimum wage instead along with a reform of the temporary contract regulations in order to stimulate employer's incentive to hire young unemployed people. Note again that the transition in the number of temporary to permanent contracts employees as discussed before does not necessarily lead to a reduction in youth unemployment. New temporary contract regulations instead will be helpful especially for young unemployed people with low productivity, whose marginal product of labor lies below the real wage. This can be motivated as follows. Low skilled workers, which are sorted into this class based on schooling and educational training, are hindered for market entry compared to high skilled ones. Under the neoclassical assumption that low skilled workers exhibit a low productivity, this must be mimicked by a lower real wage for this class in order to allow for hiring. Since the Spanish nominal wage is downward rigid the labor market entry of low skilled workers is fostered by an increase in the inflation rate. Under consideration of the liquidity trap, for a decrease of the real wage for low-skilled workers, a substantial reduction in the minimum wage would be a value option to be undertaken. In addition and with respect to our proposal stated above, education and the investment in human capital might lead to a transformation of low to high skilled workers and, hence, resemble a potential solution to this problem.

With respect to the market entry of entrepreneurs as mentioned in the end of the previous section, the *strength of legal right index* accounts for an important characteristic of the business environment. Given a more institutional approach, the government must ensure a sufficient degree of collateral and bankruptcy laws in order to protect the rights of borrowers and lenders. This institutional policy measurement might help to break down the tightness in private investment capacity expressed through among other things the low level of venture capital spent on start-ups. This step to be undertaken becomes much more appealing as we consider a decrease in the development of the costs associated with firm creation, where the latter we observed empirically in this paper. In the spirit of the 'Youth Guarantee' project, the European Commission (2012) seeks to improve the access to finance and guidance based on courses and support services in the spirit of the Entrepreneurs' Act. As a core measurement the cooperation between employment services, business support and providers of (micro)finance should be boosted up. A (small) step in the right direction had been already undertaken by Spain with respect to the expenditure of active labour market programmes on start-up incentives in the percentage of GDP. Data provided by the OECD shows an increase in the corresponding number from 0.05 to 0.1 % from 2003 until 2009.

6 Conclusion

In this paper we argue that labor market policy alone had not been successful in order to reduce the high rate of unemployment in Spain in the aftermath of the economic crises. While the corresponding reforms in 2010 and 2012 exhibits measurements, which target the relaxation of the Spanish labor market, the unemployment rates increased rather than decreased. With respect to this labor market policy this observations is surprising and this so-called *Spanish Puzzle* could be explained by the phenomena of downward nominal wage rigidity, the existence of a liquidity trap and pessimistic private agents' expectations. We claim that the Entrepreneur's Act in 2013 stands for a promising policy attempt in order to overcome the slump in the Spanish economy while leading to a sustainable development. Entrepreneurship is often regarded as a challenging, resource-demanding, and risky activity which is undertaken by (young) members of the work force. The instability and riskiness related to this activity might lead to a high probability of failure but stands also for an enormous potential of growth. We claim that the Spanish economy in its current situation gains fruitful employment possibilities when businesses are successfully established.

With respect to future policy activates, an additional promising attempt would be a start-up activity in future-oriented business sectors such as bio- as well as telecommunication and information technology, with special emphasis on internet products. In particular, an increase in the employment of young high-skilled workers can be realized from overall strong development in the service sector. A cornerstone can be identified by job possibilities in research and development activities, while the latter is, of course, not limited to the service sector and start-ups. Based on a traditional neoclassical view, given a high level of the minimum wage in Spain, the real wage exceeds the marginal product of labor for low-skilled workers due to their low productivity. In fact, Spain is confronted with a high amount of people working on a temporary contract in the absence of training-on-the-job schemes, where the latter can prevent young people from participating in stable school-to-work transition processes. A minimum wage law (in terms of a decrease in this threshold) may create an increase in youth unemployment under consideration of young workers' low productivity.

Furthermore, we suggest that macroeconomic stability (along with an appropriate funding of entrepreneurs) is one of the most important determinant which can increase the life span of new firms and ensure job creation. As an overall conclusion, the focus of policy makers must be on a more ambitious structural labor market policy in the case of Spain. Associated interventions which help newly founded companies to navigate through difficult times can be seen as preferable

policy steps in the medium- and long-run. While in this paper we focus on the description of the data in relation to the AD-AS analytical framework, we insist to apply econometric methods in future research in order to receive a much more clear picture on the Spanish labor market dynamics. In particular, more evidence on the presumed time lag of labor market reforms and, most important, concrete numbers for the jobs created for young people by entrepreneurs will be welcome.

Acknowledgements

We thank two anonymous referees and an anonymous expositor, Tae-Seok Jang, Paul Schrader, Ignat Stepanok and the participants of the *1st Workshop on (Youth) Unemployment in Europe* at Viadrina European University in 2015 for valuable discussions and comments. Furthermore we are very grateful to Raija Harten for student assistance.

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