Fear of Labor Rigidities: The role of expectations on employment growth in Peru

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Abstract

Many studies have been conducted to analyze the effect of stricter Employment Protection Legislation (EPL). However, almost all of them has focused on an ex-post impact; leaving aside a second but equally important channel: expectations. This paper aims to analyze the role of expectations on peruvian formal and informal labor market. For that purpose, we developed a calibrated search and matching model, contrasted with empirical results. To account for firm's expectations, we use the monthly number of news related to the approval of the General Labor Law (GLL), a proposal entailing future stronger labor rigidities, from January 2001 to May 2012. Using the Permanent Employment Survey (PES) from Peru, we find a negative relation between expectations towards a stricter labor market and both employment and average income. News mainly affect formal occupied EAP, arousing a substitution effect from formal to informal employment; in line with our model predictions. We also discover that the effect of expectations differs in periods with higher versus lower GDP growth. Finally, we find some evidence supporting news having a cumulative effect: the larger the previous stock of news, the weaker the effect.

KEYWORDS: Expectations, News, Firing Cost, Unemployment

1 Introduction

The goal of this paper is to explain the role that firm's expectations plays on employment and wages in a developing economy, which is characterized of a large informal sector. Almost all of the literature has focused on the ex-post impact of the implementation of a law; that is, its effect after the law has already been approved and implemented. Nevertheless, as both workers and firms are rational agents, a law does not only affect after its approval or implementation; but also before through expectations. The discussion of a law and its repercussion in the media can alter firm's expectations towards the economy's future regulation even if this law has not yet been approved. Providing evidence that expectations have a strong impact on firm's decisions is crucial for a better understanding of how policy-making works.

For this purpose, we use a law proposal called "General Labor Law" in Peru[1]. The main purpose of this law was to increase worker protection in the labor market. It was first proposed in March, 2001; but until 2012 (our reference period) it has not been approved. Through this period there has been a lot of discussion with this law both in the Congress and in the media, even appearing many times in the main business newspaper's in Peru.

So the main question raised is: has the law proposal had an impact on firm's employment and wages decisions, even before it is implemented/approved? Policy-makers do not usually take in consideration that firms are also rational agents; and, as such, they react not only after the law is implemented; but even before if the context can strongly modify their expectations towards a stricter labor market. Indeed, the ex-ante effect could have been really important in the early years of the last decade; when the discussion of this law was at its peak.

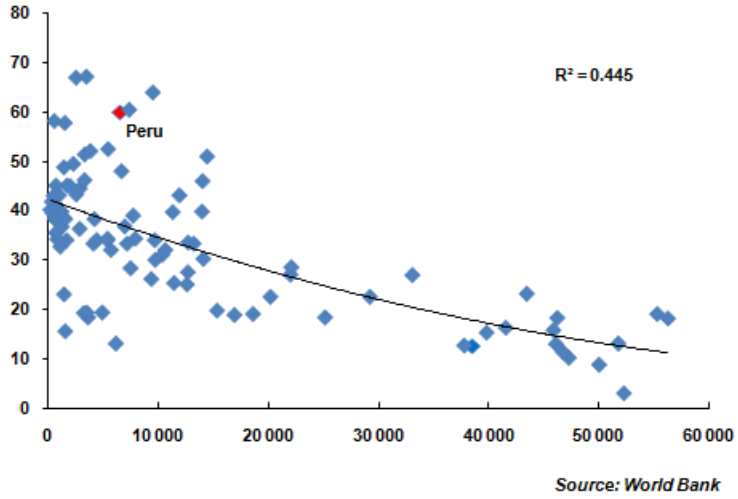
The effect of this General Labor Law might have an interesting effect in a country like Peru; which is characterized as an economy with high levels of informality. The latter is usually associated with having negative impacts on GDP per capita. Main arguments are that it hinders economic transactions; as well as it reduces reporting agents. This last fact makes that the government faces a distorted figure when making decisions.

This negative relation can be seen in Figure 1; where we compare informality rates and GDP per-capita for almost 100 countries in 2012. It can be observed that a higher level of GDP per-capita is related with a lower degree of informality. However, Peru's location shows that it has a high level of GDP per capita and informality too. This demonstrates that even though the average income per capita is growing the informality is not being reduced. Also other countries such as Australia with a higher level of GDP per capita it's not accompanied with informality; mainly because the reduction of it droved the economy into better financial and fiscal performance.

[1] A further explanation of this law is at section 3.

As noted below, Peru is one of the countries with more degree of informality in the world; ranking fifth only below Georgia, Bolivia, Panama and Azerbaijan. Moreover, Peru seems to have a 20 percentage points excess of labor informality in relation to what its GDP per-capita would predict. The main reason is its very strict labor legislation.

Figure 1: Informality and GDP per-capita, 2012



In this sense, this paper aims to estimate the effect of expectations of General Labor Law Proposal on the level of both formal and informal employment and average income. This way, we show the ex-ante effects of this law on the informal sector and, hence, on GDP. We suggest that an increase in firm's expectations towards a stricter labor market had a negative impact on these aggregated variables.

Literature related on Employment Protection Legislation (EPL) has mainly focused on its ex-post impact; analyzing different indicators after some protective's law approval. Previous studies for developed economies has shown that stricter EPL has several effects on both labor and key macroeconomic variables. Lawrence Kahn (2007) studied the effect of protective law in labor distribution using the International Adult Literacy Survey (IALS) for eight countries of the OECD. He finds that it favors older, male and native workers rather young immigrant females.

Also, Bassanini et al (2008) found that stricter EPL leads to lower productivity growth; mainly in binding industries, defined by the authors as those industries whith high layoff rate. Using this same definition, Mico and Pages (2006) discovered that a more stringent labor legislation causes lower employment and turnover ratios in binding industries. On the same line falls the results obtained by DiTella and MacCulloch (2005), who, using a VAR for labor variables, found that countries with high labor flexibility have experienced also higher employment rates.

Similar results have been found for developing economies. As Kahn (2007), Heckman and Pages (2000) and Montenegro and Pages (2003) showed that an increase in firing costs has a strong

effect on employment rates of younger and female workers in Latin America. Also, Lehmann and Muravyev (2012) obtained that, in Armenia, reducing the stringency of labor regulation in 1% would reduce informality in 0.04%. Besley and Burges (2004) analyzed the effect of the Industrial Disputes Act (IDA) on the manufacture's growth between 1958 and 1992 in India. They found that this law reduced the level of employment and increased the size of the informal sector; leading to a lower level of output. Using this same law, Ahsan and Pages (2008) found that the more stringent EPL had a negative effect on output (stronger in the manufacture sector), employment and wages.

These empirical results are mainly in the same direction from what job market models has predicted. Bentolila, Cahuc, Dolado and Le Barbanchon (2010) developed a search and matching model, obtaining a negative relation between firing costs and unemployment. Dolado, Jansen and Jimeno (2005) studied labor market behaviour assuming heterogeneous workers (and firing costs); while Costain, Jimeno and Thomas (2010) analyze labor market volatility upon the presence of high firing costs, obtaining that volatility is higher due to the presence of firing costs.

Nevertheless, all these previous studies are based on an ex post analysis. There is little evidence on what would happen before the law's approval. In this aspect Marcel Garz (2012) found for Germany that there exist an asymmetry in the effect of negative news released, which means that a negative economic coverage of news translates in pessimism unemployment expectations. This is the closest paper we found to ours; but we will also estimate the second channel of expectations on employment and income.

To explore this issue, following previous work by Bentolila, Cahuc, Dolado and Le Barbanchon (2010) and Dolado, Jansen and Jimeno (2005); we proporse a search and matching model with endogenous job destruction as in Mortensen-Pissarides (1994), allowing for the distinction between informal and formal employment entailing different dismissal costs and advance notice periods. It also incorporates the role of firm's expectations on the expected firing cost that the employer must face; measured as the quarterly number of news related to a stricter labor law proposal. In our model, firms can offer both types of job (formal and informal) subject to different EPL. The latter is subject to a government audit that force the firm to dismiss all of the informal workers while the former is subject to firing costs. We account for firm's expectations by allowing the number of news to affect the expected firing cost faced by the firms; so a higher number of news imply an expectation towards a stricter labor market. For simplicity, we let all news to be credible. Our model predicts that news (understood as a strong believe of the firm towards a future more rigid labor market) generates a substitution from formal to informal employment. Also, our model suggest that a higher level of news is related to high unemployment rates.

We find the same results when we conduct the empirical exercise. To identify firm's expectations, we use the quarterly number of news related to the approval of the General Labor Law from January of 2001 to May of 2012. The labor variables were taken from the Permanent Employment Survey administrated by the National Institute of Statistics and Informatics. This survey provides

quarterly information of approximately 19 200 interviewed households in a year. Its objective is to track labor information from Lima Metropolitana and the constitutional province of Callao. This information allowed us to establish three panels according to the respondent's age, gender and level of education. We used fixed effects to estimate the impact of news on each panel; as well as other different specifications that allowed us to identify if expectations have a differential effect in periods with high or low growth; and whether it has a cumulative effect.

The empirical results supports the model findings. First, there exists a substitution effect between formal and informal workers. Second, expectations towards a stricter labor market also has a negative impact on average income for all workers, not just the formal ones. This could make us think that this effect is due to potential changes in the informal labor market, because it has no restrained costs as the formal sector does; especially if we consider the formal sector rigidities like contracts. We also found a differential effect in periods with higher versus lower growth in both employment and average income; although this effect is not robust to all of our three panels. Finally, we discovered that news has a decreasing effect: the impact of an additional new is weaker when there is a large stock of news than if this extra new is a one-time announcement. This last result can be explained by new's credibility.

The rest of the paper is organized as follows. Section 2 discusses what has been done in literature regarding firing costs and stricter labor markets. Section 3 documents the history and main features of the General labor Law proposal. In Section 4 we introduce our search and matching model focusing on equilibrium behaviour of firms and workers in an economy with both formal and informal jobs, where the former is subject to firing costs. Section 5 analyzes our model predictions to new's shocks. Section 6 describes the Permanent Employment Survey and the expectations index; as well as the methodology used for estimation. Section 7 presents our main empirical result. Section 8 concludes.

2 Literature Revision

In this section we review the main studies that aims to predict the different effects of increasing firing costs on, on one hand, macroeconomic key variables such as GDP, added value, productivity, formal employment and informality; and, on the other, some firm-level variables such as wages, job turnover, vacancies or even number of plants per firm. The consequences of firing costs are not yet known with certainty, as we can find evidence both in favor and against it; although almost all studies finds a negative effect on job turnover.

For the case of developed countries, Kahn (2007) analyzed the effect of a stricter Employment Protection Legislation (EPL) on permanent employment among different demographic groups. He

distinguished betweenb gender, age, cognitive ability and native versus immigrant citizens. For that, he used the International Adult Literacy Survey (IALS) from 1994 to 1998 for some OECD countries, in particular: Canada, Finland, Italy, Holland, Switzerland, United Kingdom and United States; taking advantage of their very different labor regulation history. Kahn used a logit model, where the dependent variable took the value of one if the worker in time t had a permanent job; as well as fixed effects for industry, occupation and country. His main results established that stringent EPL favors older, male and native workers with a rather high cognitive ability.

On other side, Bassanini et al. (2008) analyzed the effect of raising firing costs on productivity, distinguishing between EPL-binding industries, where EPL have a large importance since its inherent layoff rate is relatively high; from EPL-non-binding industries. They used the EPL indexes elaborated by the OECD; and data was taken from various sources such as the World Bank, EUKLEMS, OECD, among others. The approach used was difference-in-difference (DID); to analyze the incremental effect of EPL on binding versus non-binding industries.Bassanini et al. also found a negative effect of EPL since stringent labor regulation leads to lower productivity growth in EPL-binding industries. A similar approach was taken by Micco & Pages (2006), analyzing the differential effect of EPL on industries with a more volatile layoff rate relative to industries with stable layoff rates. The results were very similar to those obtained byBassanini et al. (2008), as stringent EPL leads to lower employment and turnover ratios in industries where the layoff rate has high volatility.

Di Tella & MacCulloch (2005) took one step ahead and estimated a VAR model to study the effect of labor market flexibility on employment. Their dependent variables were employment rate, labor participation rate, average worked hours in the manufacture sector and the unemployment rate. They worked with 21 OECD countries on a seven year period, from 1984 to 1990; using the OECD unemployment insurance system as a proxy of a country wellbeing and the World Competitiveness Report (WCR) to obtain a variable for labor market flexibility. The main results showed that economies with more flexible labor markets have higher employment rates.

Cross country studies have also been done in emerging economies. Indeed, Heckman & Pages (2000) analyzed the effect of labor protection legislation on the level and distribution of employment in Latin America. The authors used OECD methodology for the construction of the same key variables in 15 Latin American countries; working both together and separately with 28 OECD countries. Additionally, they built an index to measure firing costs in each country based on severance payment. Heckman & Pages utilized the OLS, fixed effect and random effects estimators; obtaining a strong negative effect of firing costs on employment rates, and that this affects more intensively to younger and female workers, in line with previous results.

For the interest of this paper, there has also been some research of the effect of firing cost on informality. As we have seen, there is a significant amount of studies that states that higher firing

costs (in the terms of stringent EPL) leads to lower job turnover and even a decrease in the level of employment. The question here is: does it mean that all the employers dismissed unemployed?

Lehmann & Muravyev (2012) tried to pose a solution to this issue by analyzing the impact of the labor market institutions (including labor regulation) on informality. They used the "Labor Markets in emerging and transition economies" database elaborated by IZA, which provides information of the labor market[2] for 27 countries from center Europe and Asia in a four year interval from 1995 to 2007. Additionally, they collect similar information for 25 Latin American economies from the World Bank for three years: 1999, 2003 and 2007. The authors used the definition of informality proposed by Schenider and Enste (2000)[3] . The methodology applied was panel data with contry per year fixed effects. They found that economies with more stringent EPL have higher informality levels: reducing the stringency of labor regulation in 1% would reduce informality in 0.04%.

The outcomes obtained for cross country analysis remain fairly the same when analyzing each country individually. Autor et al. (2007) estimated the effect of firing costs on employment and productivity in the United States using the Longitudinal Business Database (LBD) and the Annual Survey of Manufacturers (ASM) from 1976 to 1999. They used the wrongful-discharge protection (WDP) law, approved in 1970 which lasted until 1999. This law had three major regulations: (i) the employer will terminate the contract only in good faith and fair dealing (good faith exception); (ii) the employee cannot be fired when fulfilling public labors such as being part of the jury or denouncing employers bad behavior (public policy exception); and (iii) the employer cannot fire the employee for an unjustified reason ("implied contract" exception). Using fixed effects for industry and year, the authors found that WDP reduces job turnover and entry and exit rates of firms; affecting more intensively in capital based industries because of the negative effect of WDP on capital productivity.

Taking advantage of the 1990 reform that took place in Italy, where "unjustified" firing cost were raised for firms with 15 or less workers, leaving this costs constant for bigger firms; Kugler & Pica (2008) studied the effect of higher firing costs on job turnover rates and employment. The authors used the Italian Social Security Administration (INPS) for 1986 to 1995, which contains both employer-employee data in the manufacture and services industry born the 10th of March, June, September and December. Kugler & Pica utilized a lineal probability model (LPM) where the dependent variable takes the value of one if a match[4] is created. Simultaneously, they used a difference-in-difference (DID) approach to analyze the differential effect between small and large firms; and used fixed effect by industry, region and year. The main results are in line with the

[2] Such as labor legislation, unemployment insurance, expenditure in labor programs, among others.

[3] Informal economy includes "unreported income from the production of legal goods and services, either from monetary or barter transactions, hence all economic activities that would generally be taxable were they reported to the tax authorities".

[4] That is, if either an accession or a separation takes place.

literature: the 1990 Italian reform had a negative effect on permanent accessions and separations. Nevertheless, they obtained that the impact on employment was not statistically significant.

Leonardi & Pica (2010) used this same reform but now to study its effect on wages; and in which type of worker would have the greater effect. They distinguished between high bargaining power worker (characterized by the authors as incumbent, white collar and older workers) and low bargaining power workers (movers, blue collar and younger workers). The authors used a difference-in-difference approach (DID) combined with a regression discontinuity design (RDD) around the threshold of 15 workers per firm; using dummy variables for industry and year to control for fixed effects. They also used IV estimation to deal with the endogeneity of the firms, as they can choose their size to avoid the reform. Their instrument variable was size of the firm in 1988 and 1989. They found that employers in small firms have wages between 0.7% and 1.5% less than employers in large firms. This effect is mainly due to decrease in wages of low bargaining power workers; as they obtained that high bargaining power workers suffer no reduction in their salaries.

For developing economies, some research has been done in India. Besley & Burges (2004) analyzed the effect of the Industrial Disputes Act (IDA) on the manufacture's growth between 1958 and 1992. This law focused on employee protection; including some regulation for the conciliation, arbitration and adjudication process in case of a conflict. So, the authors classified the laws as pro-employees (+1), neutral (0) and pro-employer (-1). They used both formal (affected from IDA) and informal firms, whose information was obtained from the Annual Survey of Industries (ASI) and the National Sample Surveys (NSS), respectively. A pooled regression panel data model approach was applied; as well as IV estimation to correct for the endogenenity that workers may be lobbying so that they could perceive some benefits from labor regulation could. The main results were that this law had a negative effect on the manufacture industry; both in output and employment. Indeed, the states with more pro-worker laws have lower employment level. Additionally, they also found that the IDA increased the size of the informal sector in India.

Using the same law, Ahsan & Pages (2009) studied its effects on output, employment and wages; and if these effects were the same among industries. They used state and industry-state levels from 1959 to 1997; collecting the information from Besley and Burges database, the Annual Survey of Industries (ASI) and the Labor Bureau. The authors classified the laws in pro-employee, neutral and pro-employer, the same way as Besley & Burges. Nevertheless, Ahsan & Pages used fixed effects at the industry, state and year level. Their results were very similar, showing that the more stringent EPL had a negative effect on output (stronger in the manufacture sector), employment and wages; and this effect was more intense in labor based industries.

A similar study was made in Latin America, where Montenegro & Pages (2004), taking advantage of the high volatility in Chile's labor regulation to analyze its effect on employment level and distribution among different demographic groups: by gender, by age and by cognitive level. The authors used the household survey from 1960 to 1998, elaborated from the economics department

of the "Universidad de Chile"; considering only workers between 15 and 65 years old. They also worked with some macroeconomic and fiscal variables obtained from Chile's government and the World Bank. To compare the expected firing cost, they used the job security measure (JS) developed in Montenegro and Pages (1999)[5]. They worked with a probit model with fixed effects; where the dependent variable takes the value of one if the individual is working in year t. As previous studies showed, they obtained that stricter EPL biased the distribution of employment against the younger, female and the low cognitive ability workers. In coherence with this, Montenegro and Pages also found that the employment rate for older, male and the high cognitive ability workers was higher the more stringent EPL.

These empirical results are mainly in the same direction from what job market models has predicted. Bentolila, Cahuc, Dolado and Le Barbanchon (2010) developed a search and matching model, obtaining a negative relation between firing costs and unemployment. to explain the different behaviour in the unemployment rate in Spain and France during their last recession period; finding that the unemployment rate in Spain would have raised about 45% less than the observed rise if it had adopted French EPL institutions (less strict) rather than kept its owns. Dolado, Jansen and Jimeno (2005) studied labor market behaviour assuming heterogeneous workers (and firing costs); while Costain, Jimeno and Thomas (2010) analyze labor market volatility upon the presence of high firing costs, obtaining that volatility is higher due to the presence of firing costs.

Until now, all of this studies are based on an ex post analysis. They are all trying to obtain the effect of stricter labor regulations on some key variables after the law has already taken place in the economy. There is little research on what would be the effects of such a law before it has been approved; so this paper is intended to fulfill this research gap. In this context, perceptions and expectations become now very important variables.

Although still an ex post analysis, Pierre & Scarpetta (2004), using the World Banking Doing Business (WDB), World Bank Environment Survey (WBES) and the International Climate Survey (ICS) from the World Bank; study the impact of the way employers perceive regulations in each country and how they react to it. They created their own EPL indexes, both for permanent and temporal workers. To measure employer's perception, they used a question from the WBES database[6]. First, with a multinomial logit using as the dependent variable the answer of the perception question, they found that medium size and innovating firms are the most affected from the EPL. To analyze the employer's reaction to this perception, the authors developed a bivariate probit with two

[5] This measure is: $JS_t = \sum_{i=1}^{n} b^i d^{i-1}(1-d)\left(b_{i+1} + a_t SP_{t+i}^{jc} + (1-a_t)SP_{t+i}^{Mc}\right)$; where T is the maximum tenure a worker can attain in a firm, b_{i+1} is the advance notice to a worker that has been i years with a firm, a_t is the probability that the economic difficulties of the firm are considered a justified cause of dismissal, SP_{t+1}^{jc} is the mandated severance payment in such event to a worker that has been i years at the firm, and finally, SP_{t+1}^{Mc} denote the payment to be awarded to a worker with tenure i in case of unjustified dismissal.

[6] The question was: "Please judge on a four point scale how problematic are these different regulatory areas for the operation and growth of your business (Please do not select more than 4 obstacles as the"major")".

dummy variables: whether the firm has used temporal employment (take the value of one if it has) or whether the firm has provided training to its previous employees to avoid hiring (again, it is one if it has).

The results they obtained is that the worse is the perception of the employers, the highest the probability of using both alternatives; but the use of training is more likely in large and medium size firms, while small firms has a higher probability to use temporal employment. The explanation they suggested is that the former firms has greater resources and usually has more planification in comparison to small firms, so it is more reasonable for them to traín their workers rather than hiring temporal workers who would not adapt to the firm's idea.

It is worth to note that, as expectations and perceptions are more important, the news about the approval of the stricter (or less strict) law would play a central role. Its importance has already been evaluated in the literature of other fields such as the effectiveness of public spending in United States. Valery Ramey (2009), constructed government spending news variables from 1939 to 2008 to analyze the effect of government expenditure on consumption and real wages. She worked mainly with military expenditure and showed that the timing of news (and therefore, expectations of agents) really matters when analyzing the effect on GDP, consumption (of durables and non-durable goods), investment, wages, bonds, among other labor realted variables variables.

In the labor market field, Garz (2012) analyzed the potential link between economic news coverage and the pessimism in German unemployment expectations; working with monthly series from 2001 to 2009. Taking advantage of an extraordinary collection of news in charge of the Media Tenor International, he examined not only the media coverage effect on the short or long-run; but also the existence of asymmetry in the effects of negative and positive news, which entails a plausible relationship between pessimism in unemployment expectations and media coverage. Garz (2012) takes into account the quantitative dominance of negative over positive coverage; so he suggested a quantity-related asymmetry. The unemployment expectations series uses representative data from the European Business and Consumer Surveys, which repeatedly asks about participant's unemployment expectations for the economy in the next 12 months.

He distinguished two main approaches, short and long run analysis. For the first one he estimated an autorregresive distributed lag model (ARDL) in first differences; while for the second type of analysis he worked with nonlinear autorregresive distributed lag model (NARDL) because of the presence of both stationary and non stationary series[7]. Working with this framework, he found that, taking into account that there were released more negative than positive news, there exists an asymmetry in the effect of negative news regarding the general economic situation. That is, negative news has a greater effect on unemployment expectations than positive news. This result supports the idea that negativity in economic news coverage is associated with pessimism in unemployment expectations, disentangling the long-run link between these two variables.

[7] So he could not work with cointegration as there are stationary series.

The evidence found here is encouraging towards the importance of ex ante analysis to study the effect of stringent EPL on both economies and firms. Nevertheless, the paper developed by Garz (2012) represents only the first step in our analysis since it only takes into account the impact of news on expectations. The second step represents estimating both the direct and indirect effects of news on other key macroeconomic variables; considering the expectations channel.

3 The General Labor Law proposal

In 2001 arose the idea of establishing a law to reinforce worker protection in Peru. But, after a little more than ten years, it has not yet been approved. The General Labour Law project has undergone three updates in this period. Between 2002 and 2005, the first delivery of the draft was discussed in 152 sessions, which concluded in the approval of 72% of the 468 items proposed. In 2006, there was another discussion of the remaining points from the previous debate. Finally, in 2011, the executive power reactivated the debate by transferring the bill to a council of experts.. Meanwhile, the Congress Working Committee also reactivated the original document update project.

Although almost 85% of this law's articles have already been approved, the remaining 15% still generates some discrepancies between the business association and the union power. These disagreements are centered in four key points: the elevation of the compensation for unfair dismissal, the reduction of the types and duration of temporary contracts, the high cost of incorporation as a cause of wrongful dismissal cases referred to the Constitutional Court and the establishment of a compensation for collective dismissal for economic and technological reasons.

As for the first point, currently compensation for unfair dismissal is set to 45 days per year of service (pys) restricting the maximum serverance pay to 12 salaries. The General Labor Law proposes to increase this compensation as in the following structure: 45 days pys for the first 8 years, then 30 days pys for the next 4 years and 15 days pys for the last 4 years, setting the maximum severance pay to 18 salaries. Regarding the second point, the maximum lenght of a temporary contract is currently 60 months and there are nine types. The General labor Law proposes reducing temporary contracts to six types and its maximum duration to 24 months.

The third point that causes controversy is the possibility of incorporating workers unjustified cases determined by the Constitutional Court as groundless dismissal, fraudulent and against fundamental rights. Incorporating involves giving them work and payment of wages earned even though they have not worked during the dictamination process. In general, all these measures imply a higher cost of dismissal for the employer, increasing labor market rigidities. Finally, regarding the last point, the General labor Law proposes to establish a severance pay for collective dismissal for economic reasons. The structure would be: 22 days pys for the first 8 years, 10 days pys for the

next 4 years and 7 days pys for the last 4 years. According to current regulation, this compensation is not considered.

4 The model

This section presents our search and matching model, inspired in Costain, Jimeno and Thomas (2010), Bentolila, Cahuc, Dolado and Le Barbanchon (2010) and Dolado, Jansen and Jimeno (2005); where the seminal Mortensen and Pissarides (1994) model with endogenous job destruction is extended to allow for the distinction between informal and formal employment entailing different dismissal costs and advance notice periods. We also allow for the firing cost to depend on firm's expectations.

4.1 A general setup

There exists a continuum of infinitely lived workers and firms, with common discount rate $r > 0$. Both agents are risk neutral, and the measure of workers is normalized to 1.

The productivity of a matched worker is assumed to be equal to an idiosyncratic component ε, which has a cumulative distribution $G(\varepsilon)$, drawn over the support $[\varepsilon^u; \varepsilon_u]$. Shocks to this idiosyncratic productivity follows a Poisson distribution with incidance rate of λ; that is, they arrive at probability λ per unit of time. We assume all workers are homogeneous; and only differ from their productivity (ε). For simplicity, we also assume that all new jobs start at the highest productivity ε^u. We define a productivity threshold ε^d such that, if after an idiosyncratic productivity shock, the new value, ε', lies below ε^d; then that filled job is destroyed and the firm must pay the firing cost. Therefore, the rate at which existing jobs are destroyed is $\lambda G(\varepsilon^d)$.

There is a matching function $m(u,v)$, where u represents unemployed searching workers and v the total number of vacants. We assume that searching is costless but keeping a job open costs $h > 0$ per unit of time for the firm. Unemployment benefits are denoted by b. Assuming constant returs to scale, we can define the matching rate for vacancies as:

$$\frac{m(u,v)}{v} = m\left(\frac{1}{v/u}, 1\right) \equiv q(\theta)$$

where $\theta \equiv v/u$ is labour market tightness and v and u are the masses of vacancies and unemployment; respectively. This matching rate$q(\theta)$ can also be seen as the meeting probability for vacancies. The meeting probability for unemployed workers is $p(\theta) = \theta q(\theta)$.

There are two types of job: formal and informal. In particular, we assume that an unemployed worker have access to a formal job with an exogenous probability p and to an informal job with probability$(1-p)$, also exogenous. There is one common constraint to destroy both formal and informal employment. As time is needed to destroy jobs, employer's who wishes to fire a worker must have a permission. Following Garibaldi (1998), there is a firing permission which arrives at Poisson rateσ. The aim of this firing permission is not only to capture advance notice, but also the uncertain time needed yo settle legal disputes. So, between the date at which the firm decides to destroy the job and the date at which the authorization arrives, we assume that the workers productivity is the lowest possible (ε_u) and that its wage is equal to the average wage of the market, denoted $\bar{w}$.

There are three main differences between formal and informal employment. First, there exists a specific constraint to destroy formal jobs. When a firm decides to fire a worker, it must pay a firing cost F. This firing cost is a red-tape cost, which means that it does not represent a transfer from the firm to the worker (i.e severance payment). Furthermore, we also distinguish between new formals and formals. We consider that the former are not subject to firing costs because, as newly hired, the firm only takes into account their productivity when making the decision of firing this worker or not.

The second difference is that there is a probability of μ of a government audit each period. If a firm has informal employment when the audit takes place, is punished. Total costs of being caught are considered in M. As can be seen, this audit does not affect formal employment. For simplicity, we assume that if a firm is caught with informal employment, it decide to fire all of them.

Finally, the third difference between formal and informal employment is that the former is more productive than the latter. Formal employment brings additional benefits to the firms such as better growth perspective manifested in, for example, higher probabilities for investment loans. To represent this feature, we assume different productivity distributions for formal, $G_f(\varepsilon)$, and informal employment, $G_i(\varepsilon)$; so that the former *first-order stochastically dominates* the latter[8].

Asset values at steady state are denoted by W and U for employees, and J and V for employers:

- U: Value to the worker of unemployment.
- $W_f(\varepsilon)$: Value to the worker of a formal job with productivity ε, subject to firing costs.
- $W_0(\varepsilon)$: Value to the worker of a new formal job with productivityε, subject to firing costs
- $W_i(\varepsilon)$: Value to the worker of a informal job with productivity ε.
- W_a : Value to the worker of a job (both formal and informal) under advance notice.

[8] An explanation of the concept of stochastic dominance is given in the Appendix.

- V: Value to the firm of a vacant job..
- $J_f(\varepsilon)$: Value to the firm of a formal job with productivity ε, subject to firing costs and advance notice.
- $J_0(\varepsilon)$: Value to the firm of a new formal job with productivity ε, not yet subject to firing cost
- $J_i(\varepsilon)$: Value to the firm of a informal job with productivity ε, not subject to firing costs but subject to the government punishment.
- J_a : Value to the firm of a job (both formal and informal) under advance notice.

4.2 Firing Cost and News

We will account for firm's expectations through firing costs. As we explained earlier, we measure these expectations as the quarterly number of news related to the potential approval of a law that seeks to reinforce the protection for workers in a **single newspaper**. For representativeness, we use the most read newspaper by businessman in Peru ("Gestion"). For simplicity, we assume that all news are credible; so more news represents a stronger employer's believe towards a future stricter labor market.

Firms will make their hiring and firing decisions using their expected firing costs, which is affected by news (employer's expectation) in the following way:

$$E[F] = F^* = \alpha F_{strict} + (1-\alpha)F_{actual} \tag{1}$$

where F_{actual} represents the actual firing cost, F_{strict} represents the firing cost the law proposes and:

$$\alpha = \frac{\text{\#News in the quarter}}{90} \qquad \text{and} \qquad F_{strict} > F_{actual}$$

We expect that, in the same newspaper, there is at most one new per day related to the topic so the weight α can be interpreted as the proportion of days where a new related to the approval of the law appeared in Gestion in a quarter. This way, a stronger believe of the firm on a future stricter labor market (measured as more news) increases the expected firing cost $F^*$for the firm.

4.3 Steady State: Value Functions and Surplus

The surplus of the three types of employment are define as follows:

$$S_f(\varepsilon) = W_f(\varepsilon) - W_a + J_f(\varepsilon) - J_a \tag{2}$$

$$S_0(\varepsilon) = W_0(\varepsilon) - U + J_0(\varepsilon) - V \tag{3}$$

$$S_i(\varepsilon) = W_i(\varepsilon) - U + J_i(\varepsilon) - V \tag{4}$$

In each of the three cases, the asset value for a worker in a job rises to $W(\varepsilon) - U$. On the other hand, when a job separates the firm's relative surplus from the outside option of separation is $J_i(\varepsilon) - V$ for informals and $J_0(\varepsilon) - V$ for new formals. However, in formal employment, if a firm decides to end a job, the workers and firms receives W_a and J_a, respectively; leading to a relative surplus of $W_f(\varepsilon) - W_a + J_f(\varepsilon) - J_a$.

We assume that wages, $w_t(\varepsilon)$ for $t = f, i, 0$, are determined by Nash bargaining between a firm and the workers, treating separation as the outside option. If we let the same bargaining power for informal and formal employment and denote worker's bargaining share as $\eta \in [0,1]$, then Nash bargaining implies that the following relation holds:

$$J_f(\varepsilon) - J_a = (1-\eta) S_f(\varepsilon) \tag{5}$$

$$J_0(\varepsilon) = (1-\eta) S_0(\varepsilon) \tag{6}$$

$$J_i(\varepsilon) = (1-\eta) S_i(\varepsilon) \tag{7}$$

As can be seen from this equation, vacancies are created until the exhaustion of any rents from vacancy creation; which means that, in equilibrium, the job creation condition implies:

$$rV = 0 \tag{8}$$

The value equations for a firm are:

$$rV = -h + q(\theta) \left[p \left(J_0 \left(\varepsilon^u \right) - V \right) + (1-p) \left(J_i \left(\varepsilon^u \right) - V \right) \right] \tag{9}$$

$$rJ_i(\varepsilon) = (1-\mu) \left\{ \varepsilon - w_i(\varepsilon) + \lambda \left[\int \max \left[J_i(x); 0 \right] dG_i(x) - J_i(\varepsilon) \right] \right\} - \mu M \tag{10}$$

$$rJ_f(\varepsilon) = \varepsilon - w_f(\varepsilon) + \lambda \left[\int \max \left[J_f(x); J_a \right] dG_f(x) - J_f(\varepsilon) \right] \tag{11}$$

$$rJ_0(\varepsilon) = \varepsilon - w_0(\varepsilon) + \lambda \left[\int \max \left[J_f(x); J_a \right] dG_f(x) - J_f(\varepsilon) \right] \tag{12}$$

$$rJ_a = \varepsilon_u - \bar{w} - \sigma \left[F^* + J_a - V \right] \tag{13}$$

The value for vacancies represented in equation (9) implies that keeping a vacant job entails a cost of h per unit of time and returns a match with probability $q(\theta)$; receiving the corresponding surplus for that match. On the other hand, firm's asset values of informal and formal employment are represented in equations (10)-(11), respectively. As can be seen, the employers obtains a flow profit of $\varepsilon - w_t(\varepsilon)$ for $t = i, f, 0$ for a continuous job. Also, after the productivity shocks takes place

(at rate λ), the worker could either stay in the firm or be separated; and that is what captures the third term on the right side of these equations.

Nevertheless, there exists some difference between type of contracts. Regarding informal employment, we must include the probability of being caught by the government audit and paying the corresponding costs M. This effect is captured by the term μM in equation (10). On the other hand, formal employment is subject to firing costs F^*; but this cost is mandatory only for incumbent formal workers. That is what is captured in equation (11). New formals are not subject to this previous constraints so its value equation stays as in (12). Finally, workers under advance notice puts minimum effort, denoted by ε_u, and receive the average market wage. Equation (13) also indicates that this type oj jobs can be destroyed at an incidence rate σ.

Similarly, the worker's asset value must solve:

$$rU = b + p(\theta)\left[p\left(W_0\left(\varepsilon^u\right) - U\right) + (1-p)\left(W_i\left(\varepsilon^u\right) - U\right)\right] \tag{14}$$

$$rW_i(\varepsilon) = (1-\mu)\left\{w_i(\varepsilon) + \lambda\left[\int \max\left[W_i(\varepsilon);0\right] dG_i(x) - W_i(\varepsilon)\right]\right\} + \mu U \tag{15}$$

$$rW_f(\varepsilon) = w_f(\varepsilon) + \lambda\left[\int \max\left[W_f(x);W_a\right] dG_f(x) - W_f(\varepsilon)\right] \tag{16}$$

$$rW_0(\varepsilon) = w_0(\varepsilon) + \lambda\left[\int \max\left[W_f(x);W_a\right] dG_f(x) - W_0(\varepsilon)\right] \tag{17}$$

$$rW_a = \bar{w} + \sigma[U - W_a] \tag{18}$$

The present value for unemployed workers is presented in equation (14). The unemployed worker receive the exogeneous benefit b and the gets in contact with a vacancy at rate $p(\theta)$. Similarly to the case for firms, the worker receives, for a given productivity ε, its corresponding wage. As in the case of the firms, when a productivity shock takes place at rate λ, the worker could either stay employed or be separated; taking into account that a job yields an asset value to the worker of $W_t(\varepsilon) - U$ for $t = i, f, 0$. Nevertheless, an informal worker has a probability of μ of being unemployed each period, we include the term μU in equation (15). Finally, (18) represents the value to the worker of being dismissed from a formal job.

The free entry rule defined earlier in (8) joint with (9) implies:

$$q(\theta) = \frac{h}{(1-\eta)\left[pS_0\left(\varepsilon^u\right) + (1-p)\,S_i\left(\varepsilon^u\right)\right]} \tag{19}$$

From equations (13) and (18), we have that:

$$W_a + J_a = \frac{\varepsilon_u + \sigma[U - F^* + V]}{r + \sigma} \tag{20}$$

So the surplus for formal employment can be now rewritten as:

$$S_f(\varepsilon) = W_f(\varepsilon) - U + J_f(\varepsilon) - V - \left(\frac{\varepsilon_u - r(U - F^* - V)}{r+\sigma} \right) \tag{21}$$

This way, we can express:

$$S_f(\varepsilon) = S_0(\varepsilon) + \frac{1}{r+\sigma} \left(\sigma F^* + b + \frac{\theta \eta h}{1-\eta} - \varepsilon_u \right) \tag{22}$$

This equation shows that the surplus for a continuing formal job is larger than the surplus from a new formal job, mainly because of the existence of firing costs and the advance notice restriction that the firms must obbey.

4.4 Job Creation and Job Destruction

From the previous expressions of the surpluses we, can get the productivity thresholds used by firms for the destruction of formal jobs and the creation of formal employment:

$$(r+\lambda) S_f(\varepsilon_f^d) = \varepsilon_f^d - \frac{r}{r+\sigma}(\varepsilon_u - \sigma F^*) - \frac{\sigma}{r+\sigma} \left(b + \frac{\eta}{1-\eta} \theta h \right) + \lambda \int_{\varepsilon_f^d}^{\varepsilon^u} S_f(\varepsilon) dG_f(x) = 0 \tag{23}$$

$$(r+\lambda) S_f(\varepsilon_f^c) = \varepsilon_f^c + \frac{\lambda}{r+\sigma}(\varepsilon_u - \sigma F^*) - \frac{r+\sigma+\lambda}{r+\sigma} \left(b + \frac{\eta}{1-\eta} \theta h \right) + \lambda \int_{\varepsilon_f^d}^{\varepsilon^u} S_f(\varepsilon) dG_f(x) = 0 \tag{24}$$

Subtracting both equations we have:

$$\varepsilon_f^c - \varepsilon_f^d = \frac{r+\lambda}{r+\sigma} \left(\sigma F^* + b + \frac{\theta \eta h}{1-\eta} - \varepsilon_u \right) \tag{25}$$

This equation shows that a higher expected firing cost, F^*, increases the wedge between the job creation and the job destruction thresholds for formal employment. Furthermore, as the expected firing cost is an increasing function of the quarterly number of news, this productivity threshold wedge also increases as there are more news.

From equation (23), we can get the productivity threshold for the destruction of formal employment:

$$\varepsilon_f^d = \frac{r}{r+\sigma}(\varepsilon_u - \sigma F^*) + \frac{\sigma}{r+\sigma} \left(b + \frac{\eta}{1-\eta} \theta h \right) - \lambda \int_{\varepsilon_f^d}^{\varepsilon^u} S_f(\varepsilon) dG_f(x) \tag{26}$$

Furthermore, using the expressions for the surplus we can get the following relations:

$$S_0(\varepsilon) - S_0(\varepsilon^c) = S_0(\varepsilon) = \frac{\varepsilon - \varepsilon^c}{r+\lambda} \tag{27}$$

$$S_f(\varepsilon) - S_f\left(\varepsilon_f^d\right) = S_f(\varepsilon) = \frac{\varepsilon - \varepsilon_f^d}{r+\lambda} \tag{28}$$

Replacing these expressions into equation (26), we have:

$$\varepsilon_f^d = \frac{r}{r+\sigma}(\varepsilon_u - \sigma F^*) + \frac{\sigma}{r+\sigma}\left(b + \frac{\eta}{1-\eta}\theta h\right) - \frac{\lambda}{r+\lambda}\int_{\varepsilon_f^d}^{\varepsilon^u}\left[x - \varepsilon_f^d\right] dG_f(x) \tag{29}$$

Equation (26) refers to the job destruction equation for formal employment. We can notice that this productivity threshold ε_f^d is an increasing function in labor market tightness (θ) and a decreasing function of the firing cost F. The intuition to this is that a tighter labor market (higher θ) reduces the surplus by rising the value of unemployment U; so it is needed a higher productivity to compensate the match for the outside option (hence, ε_f^d goes up). Regarding firing costs, the result is consistent with the fact that it reduces the propensity to destroy jobs, by making less productive jobs remain open (lower ε_f^d). This also means that this **productivity threshold for formal job destruction is decreasing on the number of news.**

Using now equation (24), we can get the productivity threshold for the creation of formal jobs:

$$\varepsilon_f^c = \frac{\lambda}{r+\sigma}(\sigma F^* - \varepsilon_u) + \frac{r+\sigma+\lambda}{r+\sigma}\left(b + \frac{\eta}{1-\eta}\theta h\right) - \frac{\lambda}{r+\lambda}\int_{\varepsilon_f^d}^{\varepsilon^u}\left[x - \varepsilon_f^d\right] dG_f(x) \tag{30}$$

This equation shows the also known result that a higher expected firing cost F^* (led by, supposedly, more news) entails a higher threshold productivity ε_f^c for formal jobs. The intuition is that a higher firing cost makes firms be more stricter regarding hiring new formal workers since they now incorporate the higher future cost it would mean to fir those same workers.

A similar procedure can be done for informal employment using equations (10), (14) and (15). As we are now dealing with informality, firing costs no longer has effects on its productivity threshold. Instead, recall that there exists a government audit with probability μ that forces the firm to incurring in a cost of M if it had informal employment. This way, the surplus for informal employment is now:

$$(r+\lambda)S_i(\varepsilon_i^d) = (1-\mu)\varepsilon_i^d - \mu M - (1-\mu-\lambda)\left(b + \frac{\eta}{1-\eta}\theta h\right) + \lambda\int_{\varepsilon_f^d}^{\varepsilon^u} S_i(\varepsilon) dG_i(x) = 0 \tag{31}$$

Hence, the productivity threshold for the destruction of informal jobs, ε_i^d, is$\left(\text{when } S\left(\varepsilon_i^d\right)=0\right)$:

$$\varepsilon_i^d = \frac{\mu}{1-\mu}M + \frac{(1-\mu-\lambda)}{1-\mu}\left(b+\frac{\eta}{1-\eta}\theta h\right) - \frac{\lambda}{1-\mu}\int_{\varepsilon_f^d}^{\varepsilon^u} S_i(\varepsilon)dG_i(x) \tag{32}$$

Again, if we use the expressions for the surplus we get:

$$S_i(\varepsilon) - S_i\left(\varepsilon_i^d\right) = S_i(\varepsilon) = \frac{(1-\mu)\left(\varepsilon-\varepsilon_i^d\right)}{r+\lambda} \tag{33}$$

Finally, replacing this result back into equation 32, we arrive to:

$$\varepsilon_i^d = \frac{\mu}{1-\mu}M + \frac{(1-\mu-\lambda)}{1-\mu}\left(b+\frac{\eta}{1-\eta}\theta h\right) - \frac{\lambda}{r+\lambda}\int_{\varepsilon_i^d}^{\varepsilon^u}\left[x-\varepsilon_i^d\right]dG_i(x) \tag{34}$$

We can notice from equation (34) that the productivity threshold for destruction of informal employment is an increasing function of both the probability of being caught, μ, and the fine when caught, M. This result is intuitive since a higher value of any of these two parameters would mean a higher expected cost for the firm, so it decides to reduce its amount of informal employment (represented by a larger threshold ε_i^d).

Now, substracting the productivity thresholds for job destruction in formal and informal employment, we can find some interesting relations between them:

$$\varepsilon_i^d - \varepsilon_f^d = \frac{\mu}{1-\mu}M - \frac{r}{r+\sigma}(\varepsilon_u - \sigma F^*) + \frac{r(1-\mu-\lambda)-\sigma\lambda}{(1-\mu)(r+\sigma)}\left(b+\frac{\eta}{1-\eta}\theta h\right) - \frac{\lambda}{r+\lambda}\left[\int_{\varepsilon_i^d}^{\varepsilon^u}\left[x-\varepsilon_i^d\right]dG_i(x) - \int_{\varepsilon_f^d}^{\varepsilon^u}\left[x-\varepsilon_f^d\right]dG_f(x)\right] \tag{35}$$

As can be seen in this equation, higher expected firing cost F^*leads to a higher wedge between job destruction in the informal and the formal market. Indeed, these equations shows that informal jobs are destroyed more frequently than formal jobs when firing costs or the expected cost of being caught (captured in a higher probability μor a higher fine M) rises.

Evaluating equations (27) and (33) at ε^u; and replacing it in (19), we get the following job creation condition:

$$q(\theta) = \frac{h}{1-\eta}\left[p\frac{\left(\varepsilon^u-\varepsilon_f^c\right)}{r+\lambda} + (1-p)\frac{(1-\mu)\left(\varepsilon^u-\varepsilon_i^d\right)}{r+\lambda}\right]^{-1} \tag{36}$$

Replacing the expressions found earlier of ε_f^d and ε_f^c (using equation (25)), and ε_f^d and ε_i^d (using equation (35)); it can be seen that firing costs F leads to a higher $q(\theta)$, that is, a higher probability that a vacancy is matched. The intuition to this result is that, for a given value of ε_f^d, higher firing costs leads to a lower expected present value of jobs, which hinders job creation.

Using the equations given by (26), (35), (25) and (36) we can obtain the steady state values for $\theta \equiv v/u$, ε_i^d, ε_f^d and ε^c. The JD curve has a positive slope since at a higher value for the market

tightness θ, the opportunity cost of employment is higher; so there is more job destruction. On the other hand, the JC curve slopes down because at a higher value of the productivity threshold ε_f^d, job destruction is more likely; so there is less creation. The solution for the unemployment and vacancies is obtained from (9), (19) and the steady-state condition for unemployment.

As can be seen, a rise in expected firing costs, F^*, makes firms unambiguously fire less workers (lowers ε^d) and reduce labor market tightness (θ). Also, it reduces the rate of destruction of formal employment compared to the informal counterpart. Although the conventional ambiguity on the effect of firing costs on unemployment holds (as it lowers job creation and job destruction); it will be shown later that for a high level of F, a further increase in firing costs will raise unemployment.

4.5 Unemployment flows

Given the values of θ and the productivity thresholds, we can also calculate unemployment. The transitional dynamics of formal employment (N_f and N_a), informal employment (N_i) and unemployment (u) are:

$$\dot{N}_i = (1-p)u\theta q(\theta) - \lambda G_i\left(\varepsilon_i^d\right)N_i - \mu N_i$$

$$\dot{N}_f = pu\theta q(\theta) - \lambda G_f\left(\varepsilon_f^d\right)N_f$$

$$\dot{N}_a = \lambda G_f\left(\varepsilon_f^d\right)N_f - \sigma N_a$$

$$\dot{u} = \lambda G_i\left(\varepsilon_i^d\right)N_i + \sigma N_a + \mu N_i - u\theta q(\theta)$$

Which clearly satisfies $u = 1 - N_i - N_f - N_a$ at all times. In steady state, these equations imply:

$$N_i^{ss} = \frac{u_{ss}(1-p)\theta q(\theta)}{\lambda G_i\left(\varepsilon_i^d\right) + \mu}$$

$$N_f^{ss} = \frac{u_{ss}p\theta q(\theta)}{\lambda G_f\left(\varepsilon_f^d\right)}$$

$$N_a^{ss} = \frac{N_f^{ss}\lambda G_f\left(\varepsilon_f^d\right)}{\sigma}$$

$$N_f^{ss} + N_a^{ss} = \frac{u_{ss}p\theta q(\theta)}{\lambda G_f\left(\varepsilon_f^d\right)} + \frac{N_f^{ss}\lambda G_f\left(\varepsilon_f^d\right)}{\sigma}$$

$$u_{ss} = 1 - N_f^{ss} - N_i^{ss} - N_a^{ss}$$

Solving for unemployment leads to:

$$u_{ss} = \frac{\sigma\left[\lambda G_i\left(\varepsilon_i^d\right)+\mu\right]\lambda G_f\left(\varepsilon_f^d\right)}{\sigma\left[\lambda G_i\left(\varepsilon_i^d\right)+\mu\right]\lambda G_f\left(\varepsilon_f^d\right)+\sigma(1-p)\theta q(\theta)\lambda G_f\left(\varepsilon_f^d\right)+p\theta q(\theta)\left(\lambda G_i\left(\varepsilon_i^d\right)+\mu\right)\left[\sigma+\lambda G_f\left(\varepsilon_f^d\right)\right]} \tag{37}$$

This final equation is the steady state condition for unemployment, or what is called the Beveridge curve. To obtain the equilibrium solution for vacancies and unemployment, we use the result obtained before when we got the solution for v/u. We could refer this last equation as the job creation condition. So, given the reservation productivity, the equilibrium value for v and u are given at the intersection of this job creation and the Beveridge curve.

As mentioned earlier, the effect of rising expected firing costs, F^*, is ambiguous as it lowers job creation and job destruction. However, we can note from equation (37) the unemployment rate (u_{ss}) will be an increasing function of F^* (as it reduces the value of the productivity threshold for job destruction - ε_f^d). More importantly, the unemployment rate is increasing in the quarterly number of news as F^*also is increasing in the number of news. The intuition of this result is that, if the conversion rate from unemployed workers to labor contracts is low to start with; a further rise in firing costs only exarcebates unemployed workers turnover precisely when less vacancies are being created. Thus, unemployment is likely to go up.

Similarly, we can obtain the formality and informality rate replacing equation (37), resulting in:

$$N_i^{ss} = \frac{\sigma(1-p)\theta q(\theta)\lambda G_f\left(\varepsilon_f^d\right)}{\sigma\left[\lambda G_i\left(\varepsilon_i^d\right)+\mu\right]\lambda G_f\left(\varepsilon_f^d\right)+\sigma(1-p)\theta q(\theta)\lambda G_f\left(\varepsilon_f^d\right)+p\theta q(\theta)\left(\lambda G_i\left(\varepsilon_i^d\right)+\mu\right)\left[\sigma+\lambda G_f\left(\varepsilon_f^d\right)\right]} \tag{38}$$

$$N_f^{ss}+N_a^{ss} = \frac{p\theta q(\theta)\left[\lambda G_i\left(\varepsilon_i^d\right)+\mu\right]\left[\sigma+\lambda G_f\left(\varepsilon_f^d\right)\right]}{\sigma\left[\lambda G_i\left(\varepsilon_i^d\right)+\mu\right]\lambda G_f\left(\varepsilon_f^d\right)+\sigma(1-p)\theta q(\theta)\lambda G_f\left(\varepsilon_f^d\right)+p\theta q(\theta)\left(\lambda G_i\left(\varepsilon_i^d\right)+\mu\right)\left[\sigma+\lambda G_f\left(\varepsilon_f^d\right)\right]} \tag{39}$$

As equation (38) shows, the informality rate will be an increasing function of the expected firinf cost F^*. An easy way to see this is by considering the steady state value of informality as a function of the unemployment steady state value, noting their positive relation. As the latter increases with expected firing costs F^* when this is high, the former will increase too (as the productivity threshold ε_i^d does not depend directly of F^*).

Regarding the formality rate shown in equation (39), we can now see a trade-off when expected firing cost rises. A rise in the F^* leads to a higher steady state value for unemployment which increases the formality rate. Notwithstanding, this rise in the firing cost also lower the productivity threshold ε_f^d, impulsing the formality rate downwards. In spite of this trade-off, we can note that for high values of the expected firing cost, the formality rate falls as the second effect becomes larger. This ambiguity, reflects the fact that firing costs hinders job creation, as it rises the minimum

acceptable productivity for firms to hire a worker; and also hinders job destruction, as it reduces the minimum acceptable productivity for the firm to keep the formal worker.

An intuitive explanation for this effect of firing costs on both the formality and informality rate is that higher expected firing costs (for example, led by more news) have a substitution effect in employment, leading workers from the formal to the informal sector. This story seems logical since for a fixed probability of being caught, μ, and fine, M; and for high levels of expected firing cost, firms would rather hire more informal workers to avoid the higher expected cost that involves a formal job; even if this means a positive probability of being caught by the government audit.

4.6 Wages

On the other hand, wages were set according Nash bargaining, where workers had a bargaining power of $\eta \in [0,1]$. Recall that this process leads to:

$$(1-\eta)\left[W_i(\varepsilon)-U\right] = \eta\left[J_i(\varepsilon)-V\right]$$

$$(1-\eta)\left[W_0(\varepsilon)-U\right] = \eta\left[J_0(\varepsilon)-V\right]$$

$$(1-\eta)\left[W_f(\varepsilon)-W_a\right] = \eta\left[J_f(\varepsilon)-J_a\right]$$

Replacing the meeting probability for vacancies, $q(\theta)$, on the asset value for unemployment, we reach to $rU = b + \frac{\theta\eta h}{1-\eta}$. Substituting this value in previous equations we get the following wages for informal and formal employment, respectively:

$$w_i(\varepsilon) = \eta\left(\varepsilon + \theta h - \frac{\mu M}{1-\mu}\right) + (1-\eta)b \tag{40}$$

$$w_0(\varepsilon) = \eta\left(\varepsilon + \theta h\right) + (1-\eta)b \tag{41}$$

$$w_f(\varepsilon) = \eta\left(\varepsilon + \lambda F^* + \theta h\right) + (1-\eta)b \tag{42}$$

From these three equations we can state that wages for all types of workers in the economy depends basically on productivity (ε), market tightness (θ), the firms's cost of vacancies (h) and the unemployment benefits (b). The explanation for the presence of the first three terms is straightforward, while the unemployment benefits appears because the firm must cover the opportunity cost of workers (otherwise, they would not work at all).

However, some differences emerges when we analyze both informal and formal wages. First, equation (40) shows that a higher expected cost of being caught when using informal employment (captured in the term μM) reduces wages for this type of workers. This result seems plausible since one would expect that the firm would try to distribute this higher expected cost with its workers;

obviously weighted by the bargaining power of each agent. But, what is most interesting for our purpose is what equation (42) reveals. A higher expected firing cost F^* leads to higher wages for formal employers; weighted by the latter's bargaining power (η) and the probability of an idiosyncratic shock (λ).

5 Model Predictions

5.1 Calibration of the model

The length of a model period is one quarter. Some of the parameters can be computed directly from data; but others need to be endogenously calibrated in order to fit some labor magnitudes. This way, our reference period for calibration goes from March, 2001 to May, 2012. The main reason is that this period captures great volatility in the quarterly number of news, having times with a lot of news and times with almost no news for several years.

The parameter values are presented in the following Table:

Table 1: Parameter Values for Model Calibration

		Peru
Standard parameters:		
Interest rate	r	0.01
Worker Bargaining Power	η	0.50
Matching function elasticity	β	0.50
Institutional parameters:		
Unemployment benefit replacement rate	b	0.50
Actual severance pay for formal employment	F_{actual}	0.95
Potential severance pay for formal employment	F_{strict}	2
Dual labor market rates:		
Probability of hiring into a formal employment	p	0.30
Probability of government audit	μ	0.125
Parameters estimated by indirect inference:		
Cost of keeping jobs vacant	h	0.50
Matching efficiency level	m_0	1.50
Incidence rate of productivity shocks	λ	0.04
Lower bound of productivity shock	ε_u	0.00
Advance notice rate	σ	1.00

The interest rate is set at 1% per quarter. As in most of the literature, we set the value of the worker's bargaining power to 0.5. We followed Bentolila et al. (2010), who used a Cobb-Douglas matching function and take the value of the elasticity of the matching function (β) with respect to unemployment equal to 0.5.

$$m(u,v) = m_0 u^{\beta} v^{1-\beta}$$

In this function, m_0 represents the degree of mismatch in the economy. A lower value of m_0 signifies higher mismatch; that is, an outward shift in the Beveridge curve.

Regarding institutional parameters (firing cost and unemployment benefits), they should be interpreted ad monetary flows in terms of the average wage; that is, as $F_{actual/strict}\bar{w}$ and $b\bar{w}$. As for the unemployment benefit indicator, we use the statutory replacement rate; setting it to 50%.[9]Indicators F_{actual}, F_{strict}, σ and p are chosen to represent Peru's Employment Protection Legislation (EPL). As regards the firing cost, recall that it reflects red-tape firing cost. We compute the actual firing cost, F_{actual}, as the difference between actually paid severance (45 days of wages per year of service in individual dismissals, for a maximum of 12 salaries) and statutory severance for dismissals based on economic reason (there is currently no firing cost for this type of dismissal). On the other hand, we compute the potential firing cost, F_{strict}, as this same difference but using now the severance pay proposed by the new law.[10] Using observed employment tenures, we obtain a value of 0.95 quarters for the **actual** firing cost and of 2 quarters for the **potential** firing cost. As expected, it follows that $F_{strict} > F_{actual}$.

The average advance notice period ($1/\sigma$) is set to one month, which implies that $\sigma = 1$. The parameter p, which represents the proportion of formal employment, is set to 0.29 as using the Permanent Employment Survey (PES) from Peru[11].Parameter μ, which captures the probability of having a government audit in each quarter is set to 0.125. This value implies that a government audit takes place once every two years, a reasonable frequency for developing economies.

For simplicity, we assume that idiosyncratic productivity shocks are uniformly distributed both for formal and informal employment, wtih $\varepsilon_u = 0$ and $\varepsilon^u = 1$. This means that, for this exercise, we relax the assumption on firs order stochastic dominance defined previously. Finally, to uncover the values of the remaining parameters (h, m_0 and λ), for which no information is available, we calibrate them to match the outcomes of the following three equations defininf key labor market variables and the overall unemployment rate in the economy.

[9] According to a study developed by the local firm "Prima AFP" in October, 2014.
[10] See the proposal of the General Labor Law on this topic in Section 2.
[11] To identify formal workers we based on whether they have access to health insurance.

The first equation refers to the destruction rate of formal jobs, defined as (in steady state):

$$\frac{\sigma N_p^{ss}}{N_f^{ss}+N_a^{ss}} = \frac{\sigma\lambda G\left(\varepsilon_f^d\right)}{\sigma+\lambda G\left(\varepsilon_f^d\right)} \tag{43}$$

In second place, we use the share of informal jobs in the total stock oj jobs (in steady state):

$$\frac{N_i^{ss}}{N_i^{ss}+N_f^{ss}+N_a^{ss}} = \frac{\sigma(1-p)\theta q(\theta)\lambda G_f\left(\varepsilon_f^d\right)}{\sigma(1-p)\theta q(\theta)\lambda G_f\left(\varepsilon_f^d\right)+p\theta q(\theta)\left(\lambda G_i\left(\varepsilon_i^d\right)+\mu\right)\left[\sigma+\lambda G_f\left(\varepsilon_f^d\right)\right]} \tag{44}$$

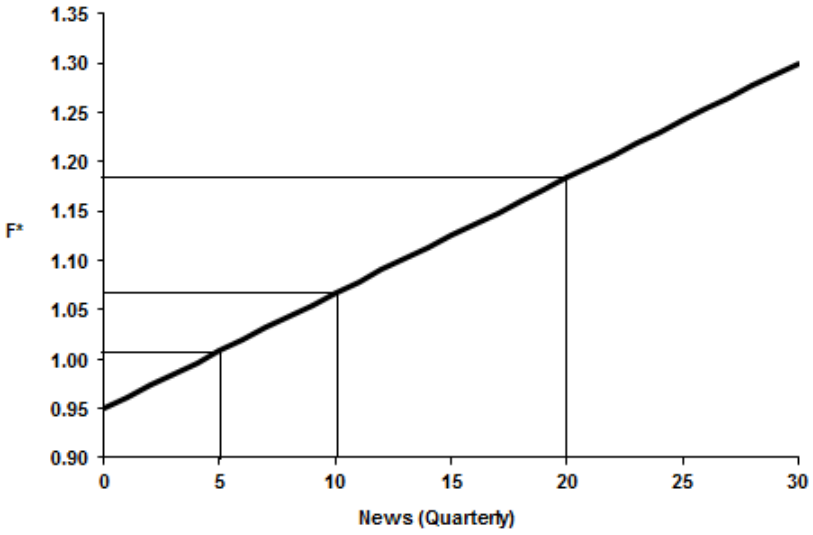
Finally, we use the steady state unemployment rate given by equation (37).

5.2 Impulse Response Analysis

In this section we summarize the main result of a simulation exercise. The main idea is to analyze the response of the unemployment and the informality rate to a shock in the quarterly number of news. We study the changes both in their steady state values and its transitional dynamics for Peru. We will consider new's shocks of three different sizes: 5, 10 and 20 more news in the quarter.

First, we analyze the impact of higher quarterly news on the expected firing cost faced by the firm. This relation is depicted in Figure 2. As can be seen, (also from equation (1)), the number of quarterly news and the expected firing cost are positively related. In this figure, we can see the level of expected firing cost for each of the new's shock consider in our simulation exercise for values of F_{strict} and F_{actual} equal to 2 and 0.95, as set before in the previous section.

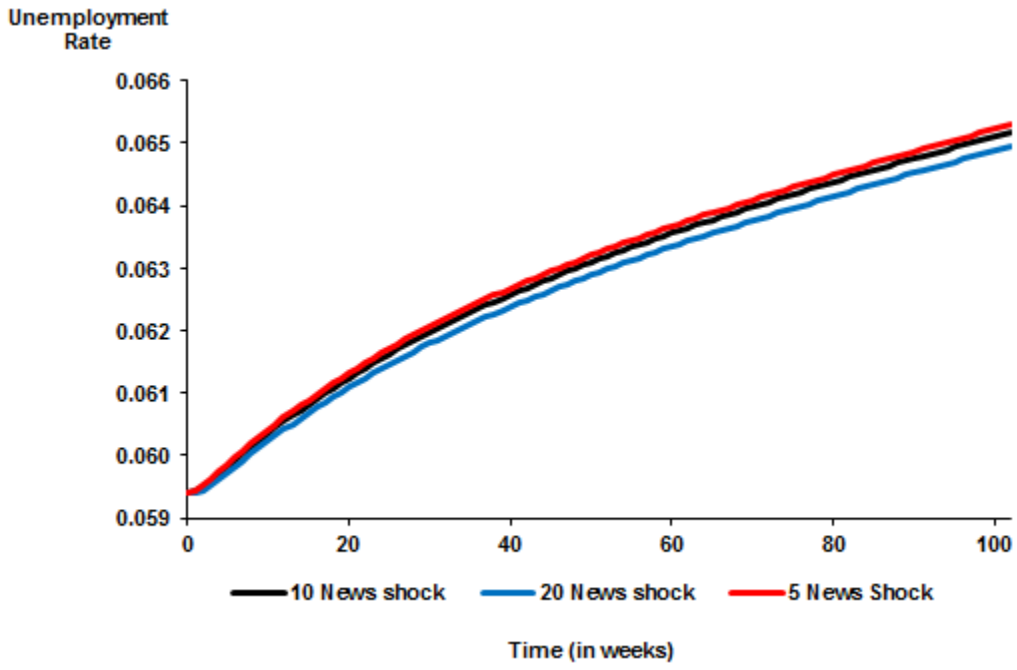
Figure 2: News and Expected Firing Cost



The transitional dynamics of the unemployment rate in Peru to a shock in the quarterly number of news is shown in Figure 3. We consider a two year time span (104 weeks). The black line represents the dynamic of the unemployment rate for an increase in 10 news in the quarter (baseline); the blue line represents its response to an increase in 20 news and the red line represents the response to an increase in 5 news. The initial value for the unemployment rate was the steady state value obtained from the model ($u_0^{ss} = 5.94\%$).

As can be seen, the model predicts that an increase in the number of news leads to a rise in the unemployment rate; and the stronger is this new's shock, the greater is the increase in the unemployment rate. We can see that the main effect is covered within the first year, in particular within the first two quarters. Nevertheless, it turns out that the speed of adjustment to the steady state is very slow, and the new's effect may last almost two years. The new steady state of the unemployment rate in the baseline simulation is $u_1^{ss} = 6.68\%$, almost 0.74 percentage points larger than the initial steady state. This outcome is coherent with the theoretical results shown in Section 3.

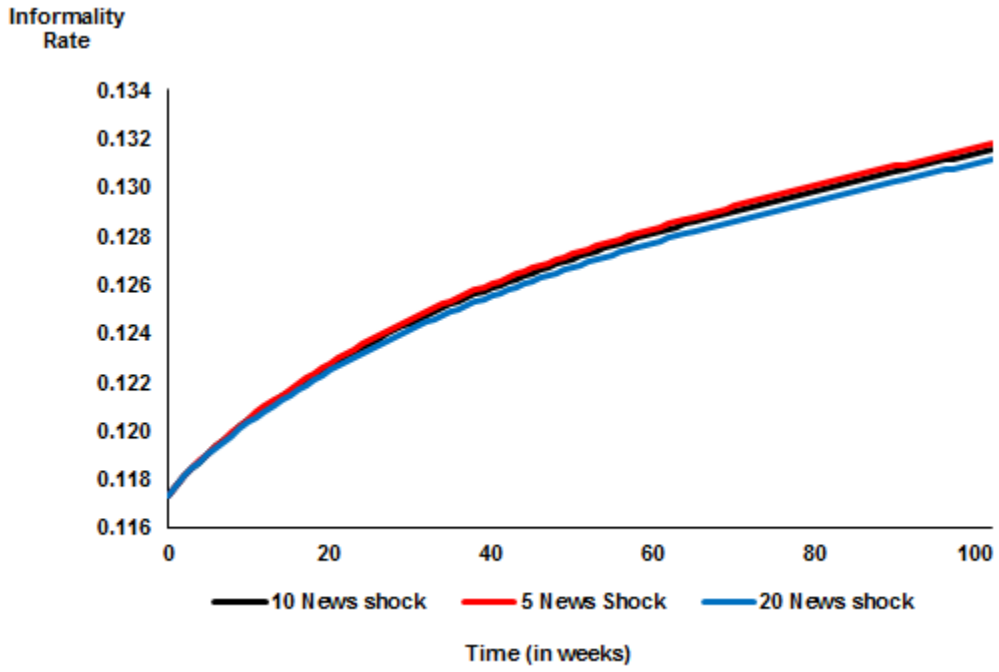
Figure 3: Unemployment Rate Dynamics to a New's Shock



On the other hand, the transitional dynamics of the informality rate in Peru is depicted in Figure 4. We also consider a two year time span (104 weeks). The black line represents the dynamic of the unemployment rate for an increase in 10 news in the quarter (baseline); the blue line represents its response to an increase in 20 news and the red line represents the response to an increase in 5 news. The initial value for the informality rate was the steady state value obtained from the model ($N_{i0}^{ss} = 11.68\%$).

Figure 4 shows that the model predicts a positive relation between the number of news and the informality rate. As with the unemployment rate, the stronger is the new's shock, the greater is the increase in the informality rate. The main effect is esentially the same for the first two quarters, regardless the size of the new's shock. The differences in the evolution of the informality rate arises from the third quarter onwards. Regarding the steady state, we can see that our model also predicts a slow speed of adjustment, where the effect of the new's shock lasting almost two years. The new steady state of the informality rate in the baseline simulation s $N_{i1}^{ss} = 13.44\%$, almost 2 percentage points larger than the initial steady state.

Figure 4: Informality Rate Dynamics to a New's Shock



Finally, we consider the effect of new's shock on the formality rate. Although not reported, we found a negative response of the formality rate to the every new's shock, being this response stronger as the magnitude of the shock increases. The steady state value for the formality rate decreases in almost 3 percentage points due to new's shock. This result, together with the response of the informality rate, allows us to affirm that a higher number of quarterly news leads to a substitution from formal to informal employment through higher expected firing costs. This result can be intuitively explained as firms, ceteris paribus, would prefer to hire informal workers to avoid the higher firing costs, even if it means a higher expected cost of being caught in the government audit.

6 Data Description and Methodology

We also estimate empirically the effect of news on both aggregated employment and average income. For this purpose, we use two sources of information. First, we the Peruvian's newspaper "Gestion" to construct the expectations index by accounting for the number of news related to the General Labor Law in each month since 2001 until the last months in 2012. Second, we use the Permanent Employment Survey (PES) for information regarding labor market indicators and worker's characteristics.

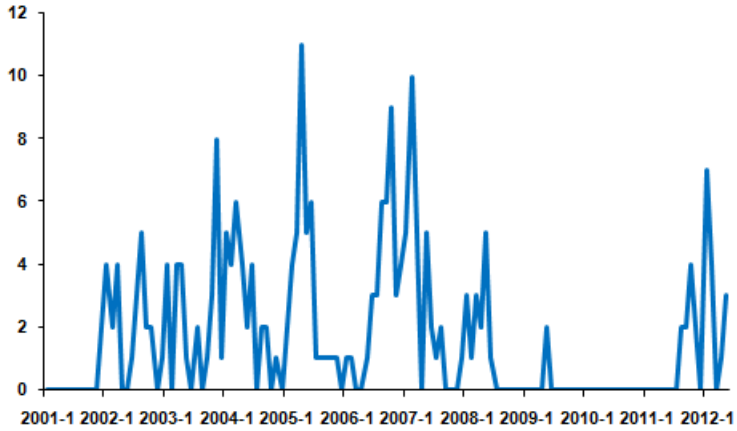
6.1 New's Data: The Expectations Index

In order to analyze the role that plays labor legislation on the evolution of formal employment, we built an expectations index, which pretends to capture expectations, mainly of firms, about the likelihood of the new labor legislation being approved. This index was constructed taking into account the number of news referred to this legislative change in the local newspaper "Gestión" from January of 2001 to May of 2012. The news were prompted by various members of the Work and Social Security committee, members of the Labor Ministry, member of the National Labor Council, specialists of the International Labor Organization (ILO), members of the "Confederación Nacional de Instituciones Empresariales Privadas" (CONFIEP) and the Lima Chamber of Commerce (CCL).

We only use news that appeared on "Gestion" because this is the main economic and business newspaper in Lima. It also belongs to the economic corporation "El Comercio" and has a trajectory of 22 years. According to the XI Annual Executives Survey drawn by Lima Chamber of Commerce in November 2011, this is the second most read newspaper by businessman, only behind "El Comercio" newspaper. In 2012, the net sale of Gestion sums up to 46 962 copies in Peru.

As mentioned earlier, the General Labor Law project was first proposed around the last quarter of 2001. In this year, the discussion about the potential benefits and damages of this law emerged. On one hand, it was argued that this law could prevent the employees from unjustified layoffs; but detractors attacked the law claiming that a rise in firing costs could disencourage hiring native workers; and could even affect firm's investments. The law's approval was the centre of debate for almost six years, mainly between 2002 and 2007. After this period, the relevance of this law started to fall slowly, until there were almost no news related to the topic from the second half of 2008. It was not until 2011 that the law gain relevance; as the proposal was renewed. The evolution of this topic can be captured in our expectations index; which collects monthly news related to the General Labor Law project from the most important business newspaper in Peru (Figure 5). We must take into account that this newspaper is read by the biggest and formal businessman. This is more worrisome, since the effect of news comes from these firms.

Figure 5: Expectations Index, 2001 - 2012



It must be stressed that during our sample period, there took place two elections: (i) in June 2006 and (ii) in April 2011. As this topic was of great controversy, much was said by the candidates regarding labor regulation and, in particular, the General Labor Law project in these periods; making the topic really important for the media. Therefore, it arises a positive relation between the expectations index and the political cycle, captured in Figure 5. Indeed, from this figure it can be shown that in the months closer to the elections (both before and after), the number of news related to the General Labor Law rises, specially in the 2006 election.

6.2 Permanent Employment Survey (PES)

The Permanent Employment Survey (from now on, EPE, from its acronym in spanish) provides quarterly information for labor indicators since March 2001. This survey is administrated by the "Instituto Nacional de Estadística e Informática" (INEI), and covers 19 200 households approximately annually, quarterly covering around 4 500 households. Although the frequency of this survey is monthly, the variables are presented for the last moving quarter. The scope of the survey is only for Lima Metropolitana and the Constitutional Province of Callao, accounting both, urban and rural areas from 43 districts in the province of Lima and 6 districts in the province of Callao.

Although it's not nationally representative, the information it provides is valuable to track labor market performance. The survey is carried quarterly, asking around 56 questions about characteristics of household members (12 questions), employment and income (26 questions) and household income such as occupational wages (18 questions). Respondents are family members, domestic workers that lives in the household and people who were in the household the last 30 days over 14 years old. This survey offers agreggated indicators such as the number and hours worked of people

that belongs to Occupied or Unoccupied EAP, employment composition according both firm's and individual's characteristics, average income and some other labor variables.

The main variables retrieved from this survey are if worker belongs to Occupied EAP and average income; both according to gender, age and eduaction level. Also, we distinguish the effects of the expectations index between formal and informal employment. To make this distinction, we used to what type of health insurance did the individual belonged the time it was surveyed. The workers who belong to the public health insurance (called "ESSALUD" in Peru) or to a private health insurance are considered as part of formal Occupied EAP.

The period covered for this paper is January-February-March 2001 until June-July-August 2012. However the quarter of October-November-December 2006 has no information regarding health insurance affiliation, which does not allows us to distinguish between formal and informal employment. The reason is that in that quarter, INEI tried to replace PES for another survey, which did not included our identification variable for formality. Nevertheless, this attempt was not very successful, so in the next moving quarter they return to the PES. Regrettably, we were informed by the same institution that our formal variable was not accurate for the following two moving trimesters; so we decided to drop this three observations from our database. Also, income variables started to belong to this survey in the moving quarter of January-February-March of 2003. So, the number of observations for occupied EAP sums up to 133; and for average income, 113. However, the next subsection will explain how we treated data to increase the number of observations to improve efficiency in our estimates.

6.3 Methodology

Data is only available as repeated cross-section; the Permanent Employment Survey does not follow each individual across time as panel data would require. To overcome this issue, we worked with the average individual of some demographic groups, in order to form a cohort panel database. We worked with three cohort *panel* datasets: by gender (N=2), by age (N=3) and by education level (N=4)[12].

The groups division was the following. For the gender panel, we use the average men and women. For the age panel, data only allowed us to work with the average individual of these three groups: (i) employees from 14 to 24 years (young workers); (ii) from 25 to 44 years (medium workers) and (iii) more than 45 years (older workers). Finally, for the education panel the four (mutually exclusive) groups we used were: (i) workers with at most primary level, (ii) workers with at most seconday level (but more than primary level), (iii) workers with at most non-university superior studies and

[12] We also tried with a panel by economic sectors (construction, manufacture, services and commerce; which represents almost 90% of employment in Lima), but results were unsatisfactory.

(iv) workers with some university studies. To identify the expectations effect we estimate the model using panel fixed effects. It is worth noting that our expectations index does not have cross-section variability; so a bigger N would not help to identify the indirect impact caused through firm's expectation; but it would help towards efficiency and the identification of the expectations effects.

The expectations index contemporaneous value represents the previous month with respect to the first month of the quarter where the labor variables develop. Namely, the current value of the expectations index is lagged one month with respect to occupied EAP and average income. This means that, for example, if we consider the moving trimester of February-March-April 2012, then the "contemporaneous" value for the expectations index is the corresponding to January 2012. In the same way, one lag of the expectations index is the value for December 2011; and so on. In our estimations, we include up to three lags of our expectation index.

To ensure the robustness of our estimations we included some control variables. First, we used GDP in levels (millions of Nuevos soles of 1994); which shows the growth of the peruvian economy and the agreggated income. Also, taking into account that employment and average income is determined as a supply-demand equilibrium; we need a labor supply shock that allows us identify the real effect of firms's expectations - captured by news - in their decisions. For that purpose, we used the stock of universities in Peru each month. This variable represents the growth of skilled labor and could be understood as a proxy of the rythm of graduates. Also, we used peruvian population as another supply shock. Unfortunately, this variable was only available at an annual frequency. For the age and gender panel datasets, we used the population according the demographic groups established before; but for the education panel we only used population as an aggregate due to data availability.

As mentioned earlier, the expectations index has some similarity with the electoral cycle in Peru. So, to be sure that the news effect we capture is not due to the political context, we also included in some specifications a variable accounting for this electoral period. This way, we created a dummy variable that takes the value of one six months earlier the date of the two elections that took place during our sample period: (i) in June 2006 and (ii) in April 2011.

This way, we estimate this general model:

$$Y_{it} = \beta_0 + \beta_1 News_t + \beta_2 News_{t-1} + \beta_{13} News_{t-2} + \beta_4 News_{t-3} + \beta_5 elec_t + X_{it}\gamma + \sum_{j=2}^{12} \delta_t m_{jt} + e_{it} \quad (45)$$

Where Y_{it} is the occupied EAP or average income of group "i" (according to each panel) in moving quarter "t", $News_t$ is the expectations index in period "t", $elec_t$ is the dummy variable indicating the electoral cycle and X_{it} indicates the control variables mentioned earlier: GDP, the stock of universities and population according each panel group. We also included monthly fixed effects

in some of the specifications, captured by the m_{jt} dummy variable, indicating if the observation in period "t" is in month "j".

We also want to determine whether this expectations effect differ in periods with low growth.The main hypothesis is that in periods where the growth rate is higher, the effect of news towards this law's approval might diminish. During an economic boom, firm's are usually washed away by the favorable economic context; so it would take a strike of really bad news to hinder their impulse to hire and to expand their business. On the other side, in periods with relative low economic growth , firms are often more cautious to any sign of bad news that may appear in the market; so their decisions may be more influentiable by news; portraying both the actual and the potential economic context. This differential growth effect might also display (although in an indirect way) an assymetric effect of news: bad news have a greater impact than good news (Garz, 2012).

For that purpose, we allow the effect from the expectations index to differ in two ways. First, we consider that it may be a differential effect across the sample we consider. From 2001 to 2006 the peruvian economy experienced a steady growth. According to the Central Reserve Bank, we went from a negative real GDP growth in the first trimester of 2001 of 4.2% to 8.9% in the last quarter of 2006; the highest peak in the whole subsample. This growth continued during 2007 and the first semester of 2008; but in the second half of this year, the world financial crisis hinder peruvian growth; mainly in 2009 and the first quarter of 2010. After this bump, Peru has experienced a high growth level.

In order to identify different effects across different periods of growth, we created a dummy variable which takes the value of one from the first moving quarter (January-February-March) of 2007 to the end of the sample and zero otherwise. We consider the first subsample as the lower growth period, having an average GDP growth rate of 4.72%; while after 2007 the average growth rate was of 7.01%.

The second way we identify differential growth effects is by taking into account real GDP growth rate. The procedure is analogous to the previous case. We created a dummy variable which takes the value of one if the real GDP growth rate of the correspondent month is greater than the average of the full sample (which sums up to 5.99%). Again, to capture this differential growth effects, we worked with interactions between this dummy and the expectations index (and its lags). This way, the coefficient of this interaction variable would be the additional impact of the expectations index on employment and average income.

The estimated model for heterogeneous growth effects would be:

$$Y_{it} = \beta_0 + \sum_{j=1}^{3} \beta_j News_{t-j} + \sum_{j=1}^{3} \delta_j D_t * News_{t-j} + X_{it}\gamma + e_{it} \tag{46}$$

Where D_t takes the value of one if in period "t" was a period of high growth (it works for both previous definitions of growth).

We also tried to determine whether news has an increasing or decreasing effect. That is to say, if a previous larger stock of news would make the effect of this additional new stronger or weaker. The logic behind is that a larger stock of news, on one hand, would make the menace of a stricter labor market more credible than if it is just a one time release; so its effect could be stronger. On the other hand, the additional effect could be weaker because the previous large stock of news make it less credible. If nothing has happened until now, why would this additional new be different? In this sense, we also estimate previous models adding our news variable squared:

$$Y_{it} = \beta_0 + \sum_{j=1}^{3} \beta_j News_{t-j} + \delta News_t^2 + X_{it}\gamma + e_{it} \tag{47}$$

Finally, we tried to estimate this expectations effect through the news size, in order to verify if bigger news has a greater impact on expectations and employment. We were also interested in analyzing whether if being closer to the front page has also a greater effect in employment and income; and if this impact differs with the new's size.[13]

For that purpose, we measured the total area (in cm^2) of each new registered in the expectations index and averaged this area for each month. Then we normalized this average area dividing by the size of one page of "Gestion" (1,036 cm^2) so that our final variable measures the new's size as a percentage of the whole page. It is worth noting that this variable could take values greater than one if there is one or more two-page news in an specific month. On the other hand, we also included the average page of the news for each month and we normalized this variable dividing by the number of pages of "Gestion" (35 pages). This way, the normalized variable represents the average page of all the news in one month as a percentage of the total pages of the newspaper.

The model estimated was of the form:

$$Y_{it} = \beta_0 + \sum_{j=1}^{3} \beta_j Area_{t-j} + X_{it}\gamma + e_{it} \tag{48}$$

$$Y_{it} = \beta_0 + \sum_{j=1}^{3} \beta_j Area_{t-j} + \sum_{j=1}^{3} \phi_j Area_{t-j} * Page_{t-j} + X_{it}\gamma + e_{it} \tag{49}$$

Where $Area_t$ is the normalized average new's area variables in each month "t" and $Page_t$ is the normalized average page of the news in month "t". In model (48), we estimated only the direct

[13] We also estimated a differential effect if there was at least one new in the front page in each month, but the results showed it had no greater effect.

effect of area in both employment and average income; and in model (49) we also estimate the differential impact of area if the new is closer to the front page, captured by the ϕ_j estimates.

7 Empirical Results

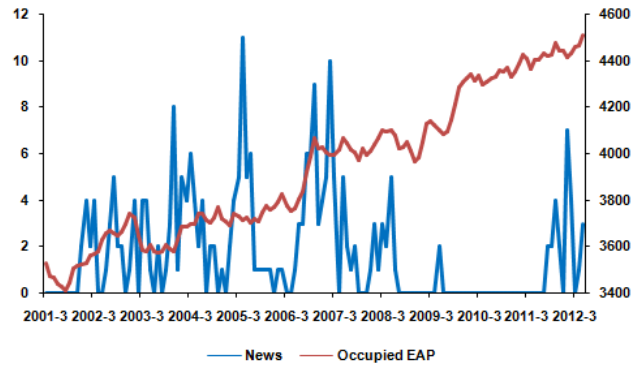
7.1 A first approach: descriptive analysis

The direct impact of the General Labor Law project cannot be obtained since it has not been approved. Nevertheless, we can capture its indirect impact, whose transmission channel is expectations. Employers behaviour (i.e hiring, firing, investments) can be modified by their percepctions; particularly, how strict a market is. Indeed, each firm would act very differently in a context where employment protection is really high in contrast where regulation is not strong. News is one of the possible channels that can alter firm's perceptions. Local media can have a very strong influence among employer's expectations, which, if modified, may have an effect on some key variables such as employment or informality. We are capturing this indirect channel by using the expectations index.

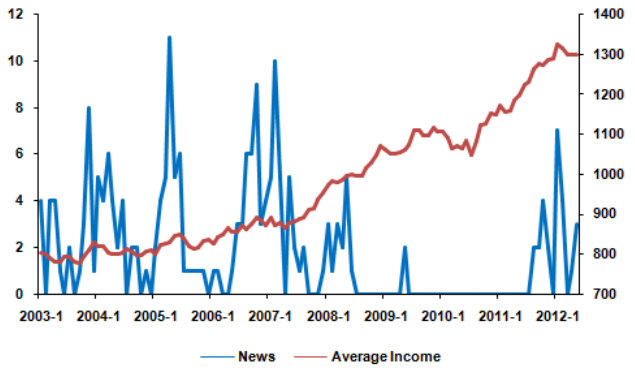
Some preliminar evidence of this effect can be drawn from a graphical analysis. The panel on the left in Figure 6 shows the evolution of the expectations index together with occupied EAP. Here, it can be seen a negative relation emerging. Indeed, in periods where news were more constant (from 2002 to the first half of 2004), in spite of the rapid economic growht of peruvian GDP; occupied EAP growth seems to hinder. Also, from mid 2005 to the first semester of 2006, news reduced almost to one per month. In this period, occupied EAP rose considerably; only to hinder when the LGT proposal gain relevance in the end of 2006. Finally, it is worth noting that during the period where news were almost zero, occupied EAP shows a greater growth; only diminished by the financial world crisis.

Figure 6: Relation of Expectations Index and Key variables

(a) Expectations Index and Occupied EAP



(b) Expectations Index and Average Income



On the other hand, panel b in Figure 6 shows the evolution of the news index and the average income of the occupied EAP. The relation between these two variables is less clear than occupied EAP; but it can be inferred the same negative relation. In periods where monthly news were more constant the average income seems to hinder. In contrast, when the expectations index is near zero, the average income show some signs of growth.

This indirect effect can be decomposed by different type of workers according to demographic groups. The evolution of the expectations index, the occuppied EAP and the average income by gender, age and education level also seems to uncover a negative relation. The most pronounced relation with employment is present in the young and less educated workers, as argued in the literature(Garz, 2012)**.** On the other side, older and more educated workers does not seems to be affected by news. There is no observable difference between male and female workers. In the case of average income, preliminary evidence is not that clear; although the same groups as before seems to be the more affected by an expectation on more labor market rigidities.

This same statements can be inferred watching the sample characteristics presented in Table 2. Column (1) describes the characteristics for the whole sample; while column (2) and (3) describes those same characteristics for the subsample 2001-3 to 2006-10 and 2007-1 to 2012-5; respectively. In particular, Column (2) covers the period where the expectations index is different from zero in each month; while Column (3) presents the same results but for the subsample where the expectation index is mainly zero in each month.

Table 2: Sample Characteristics

	Full Sample (1)	2001-3 to 2006-10 (2)	2007-1 to 2012-5 (3)
Occupied EAP	3940.09	3664.103	4220.26
	(316.39)	(115.80)	(177.35)
Average Income	976.55	818.64	1084.22
	(165.91)	(25.86)	(130.76)
Formal Occupied EAP	1170.14	959.74	1383.74
	(252.05)	(24.69)	(190.88)
Formal Average Income	1121.304	977.12	1267.68
	(171.63)	(56.83)	(115.54)
Expectations Index	1.61	2.05	1.17
	(2.19)	(2.23)	(2.03)

Table 2 suggests there may be significant differences in periods with higher or fewer news. Indeed, in periods with high amount of news related to the General Labor Law (Column(2)), the occupied EAP and average income for both total and formal labor market is less than the average for the full sample; while the opposite occurs when the expectations index is closer to zero (Column(3)). This results are quite surprinsing taking into account that the first subsample is a period of a a steady

and accelerated economic growth; while the second subsample considers the deceleration caused by the world financial crisis; which could diminished the level of both occuppied EAP and average income. Namely, it may appear that firm's expectations towards the law's approval could explain somewhat the evolution of employment and income in both subsamples.

7.2 Panel Estimation

We start our analysis by studying the total effect of expectations to both formal and informal employment and average income. Our results indicates that the discussion of the approval of the General Labor Law had a negative effect on both Occupied EAP and wages on our three panel datasets. Regarding employment, we can state that news related to a stricter future labor market, while affects negatively to both formal and total occupied EAP, the impact on the former seems to be stronger. Expectations has also a negative effect on average income and is higher in magnitude for overall occupied EAP; although evidence is not as conclusive as in the case of employment. These results are robust to our three panel datasets.

If we focuss on the education panel (shown in Table 3), we would find some evidence of the results above. Columns (1) and (2) show the results for overall and formal Occupied EAP; respectively. This order remains for average income; where Column (3) corresponds to all workers; while Column (4) only focuses on formal employees. In these specifications, as discussed earlier, we include three lags of our expectations index.

Table 3 shows that expectations has a negative effect on employment. Taking into account the treatment of our data, this estimates should be read as follow: for the case of the contemporaneous value of the expectations index in formal employment,*"one more new related to the approval of the General Labor Law in the earlier month implies an average reduction in formal occupied EAP of about 1.6 thousand workers in each group*; in this case, in each one of the four education levels. This way, if a new is released consecutively in three moving quarters, the total reduction in formal occupied EAP arises to 4.8 thousand workers in each group, as referenced by Table 3.

If we take the month with higher news (11 news in April, 2005), the model predicts a reduction in formal employment in the next moving quarter of May-June-July, 2005 of approximately 70 400 workers.[14] Now, taking the number of news in the previous three months; the total effect would be of 119 240 employees; which represents 12.51% of formal employment in this moving quarter.

Also, as discussed above, the effect of expectations is different whether we consider formal or total employment. As seen from the two first columns, this impact is stronger in formal occupied

[14] This quantity comes from multiplying 11*1.6*4; which is the number of news, our estimate and the number of categories in that panel.

EAP. Analyzing first overall employment, we could say that the effect is not statistically significant for any lag; except for the second one; and that its effect is -0.4. In return, the impact on formal employment is much stronger and statistically significant for all three lags. The explanation for this result could be that there exists a *substitution effect* between formal and informal employment. Expectations regarding a stricter labor market affects mostly formal workers who now moves to the informal sector, where, due to lack of enforcement, laws usually does not have an effect. This leaves the overall employment almost unchanged.

Regarding wages, although evidence is not as conclusive, we can state that expectations has a negative impact on average income. Column 3 in Table 3 shows that one more new related to the General Labor Law released two months ago is associated with a reduction in wages of about two nuevos soles for all workers. The impact of expectations is statistically significant for all three lags; albeit the contemporaneous effect is not. This lagged response could be explained by wages rigidity. Employers should be really confident about the future stricter labor market to reduce wages; not to mention the existence of contracts.

Unlike employment, our results establish that the effect of expectations is greater in overall workers compared to formal workers. Furthermore, expectations does not seem to have an effect on formal average income. This results could be explained because contracts are reviewed in the short-run, reducing wages in spite of the greater cost for all. It can also be explained by simple demand and supply movements. As seen before, news reduce mainly formal employment, resulting in an increase in the informal sector. This situation leads, first a rise in the demand for informal workers since they less expensive for the firm (because of expectations towards a stricter labro market). On the other side, the supply of informal workers has also rosen because of the substitution effect. The resulting drop in wages is an indicator that the change in the supply is greater than the change in the demand for informal employment. Formal worker's average income does not change (as it should do since there are now less formal workers) mainly because of rigidities caused by labor contracts.

Table 3: Education Panel: Employment and Average Income

	Overall Employment	Formal Employment	Overall Income	Formal Income
	(1)	(2)	(3)	(4)
News	-.615	-1.608	0.223	0.293
	(1.732)	(0.64)**	(1.564)	(0.781)
News-1	-.444	-1.313	-2.009	1.026
	(0.135)***	(0.435)***	(0.914)**	(1.220)
News-2	-.280	-.903	-1.381	0.265
	(0.324)	(0.395)**	(0.364)***	(0.801)
News-3	0.006	-1.028	-4.268	-.263
	(0.306)	(0.469)**	(2.388)*	(0.395)
GDP	0.194	0.23	1.062	0.912
	(0.4)	(0.158)	(0.272)***	(0.348)***
Univ	1.270	2.077	4.657	2.757
	(0.82)	(0.765)***	(0.728)***	(0.34)***
Popul	44.553	19.621	50.274	90.725
	(26.670)*	(9.204)**	(10.059)***	(32.413)***
N	484	464	444	464
R^2	0.529	0.671	0.859	0.796

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

These results are robust to the other two panels; although there exists some differences regarding the magnitude of these effects. Tables 5 and 6 in the Appendix shows the result for the age and gender panel, respectively. The negative effect of expectations on both wages and employment still remains, as well as the different impact of news on formal and overall employment. IT also remains the substitution between formal and informal employment explained above, where formal employees now traslates to the informal sector, as can be seen by a negative important effect on formal employment (Column (2)) and a non-significant impact of news on overall employment (Column (3)). Rather, the main difference among the different cohort panels is the magnitude of the effects.

For the age panel, again analyzing the month with higher news, we get a reduction of about 79 200 in formal employment for the moving trimester of May-June-July, 2005.; while considering the gender panel leads to a decrease of 81 400 workers. Furthermore, the aggregated effect considering the three previous months would be of 137 460 and 141 468 workers for the age and gender panel; respectively. This means that the total effect for this quarter, taking into account all three panels, fluctuate from a reduction of 12.51% to 14.85% in formal employment.

Finally, the effect of expectations on average income is still larger for overall workers compared to formal employment. Nevertheless, in the two last panels we find a statistically negative impact

of news in both groups; although the magnitude is greater in the former than in the latter. The explanation for this result is again the rigidity brought by labor contracts between the firm and the worker.

7.3 Heterogeneous growth effects

In this section we analyze whether there is a different impact of expectations in both employment and average income in periods with high versus low growth. As explained earlier, we identify this heterogeneous effects in two ways: (i) a dummy variable taking the value of one after the moving quarter of January-February-March 2007; which represents a period with relative lower growth; and (ii) another dummy variable taking the value of one if the real GDP growth in each month is greater than the sample average (5.86%). Our variable of interest would be the interaction between these dummies and the expectations index; capturing the latter's additional impact in periods with low and high growth; respectively.

Our results show that in periods with higher growth (after 2007), the effect of news related to a stricter labor market had a stronger negative effect in both occupied EAP and average income. Nevertheless, this differential impact is not robust to all three panels. Regarding employment, this differential effect only appears statistically significant in the education and the gender panel. On the other hand, the negative effect of expectations on average income is robust to the three panels; having a stronger impact in period of relatively higher growth only for wages of all workers. This same effect in formal workers's average income does not seem to be statistically different after 2007.

The results for the gender panel are shown in Table 9 in the Appendix. As can be seen, after 2007, the negative effect of expectations on formal employment stregthened. Indeed, one more new a month earlier to the moving trimester before this year implies a reduction of approximately 3.65 thousand formal workers; while in a moving quarter after 2007, this negative impact rises, now leading to a reduction of 4.85 thousand formal workers. A similar result could be obtained from the education panel in Table 7, although with a different size effect. In this table, we can see that the effect of news before the moving quarter of January-February-March of 2007 is a reduction 1.2 thousand of formal workers; while after this quarter, the effect now arises to 2.4 thousand workers.

Analyzing overall employment in the gender panel, we arrived to a different result. The effects of expectations towards a stricter labor market on aggregated employment is still negative before 2007. However, after the first moving quarter of 2007, the effects of news becomes statistically zero or even positive for some lags. This result reinforces the previous substitution effect. A future perspective of more labor rigidities leads to less formal employment and a bigger informal labor

market in the economy; and this substitution is stronger in periods with high growth. Firms do not want to lose the opportunity for growth despite higher labor costs.

In return, the effect on average income seems to be robust to all three panels. As can be seen, it appears that there exists a negative relation between expectations and average income; and this negative effect is greater after 2007. Focusing on the education panel, one more new two months earlier after 2007 causes an additional decrease of 1.71 nuevos soles; compared to this same effect before 2007. This relation does not change when analyzing the results for the other two panel (only differs in terms of magnitude); which are shown in Tables 7 (education) and 8 (age).

One main limitation of these first approach is our expectations index. As discussed above, the number of news related to the General Labor Law dropped to zero from 2008 to early 2011 as the topic lost relevance. This data problem does not allows us to correctly identify the effect of expectations after 2007, precisely because in almost the half of this subsample our main variable takes the value of zero. This could be a plausible explanation for the little robustness of the results presented above.

In this sense, to increase the identification of this heterogeneous growth effect, we used a second approach. This one is based on a classification of each period with a dummy variable according to real GDP growth; taking the value of one if it was higher than the average sample growth. This way, we avoid the problem arose earlier regarding the quantity of zeros of our expectations variable. Indeed, there were 29 months with a growth higher than average before 2007; while after this year the number of months were 40; reassuring the avoidance of the previous difficulty.

Our results indicates that a higher number of news is still related with a reduction in employment; but this effect is weaker in periods with high growth. However, evidence from this last finding is far from being conclusive. The expectation's stronger negative effect in periods with lower GDP growth on both overall and formal employment appears to be only significant in the age and gender panel (shown in Tables 11 and 12, respectively); while this same impact obtained from the education panel is not statistically significant (shown in Table 10).

Analyzing the effect on the gender panel, we find that the effect of news on employment is reduced when the economy is growing above its mean rate. An extra new released two months earlier leads to a decrease in formal employment of about 3.74 thousand workers in months with lower than average growth; while this effect is diminished to a reduction of 2.22 thousand employees when analyzing months with a growth rate above 5.86%. If we analyze the age panel, we could state that, when we consider growth heterogeneous effects, the negative effect of the expectations index is reinforced only in formal occupied EAP. This result could represent some evidence in favour of the labor substitution between formal and informal employment in periods of high growth.

Finally, regarding average income, these estimation suggests that higher expectations towards a stricter labor market have a stronger negative effect on average income in periods with high growth;

in line with the results found when using our year dummy. Hence, this means that, although we cannot be confident about the magnitude, we can state that there exists a differential impact of expectations in higher versus lower growth periods in both employment and average income.

7.4 Cumulative Effects

We also calculated if expectations had a cumulative effect; that is, whether the effect of news on employment and income is increasing or decreasing. For this purpose, we included in previous estimations news squared. We only worked with formal employment and average income. Results for the three panels are shown in Tables 14 to 15. As can be seen, news seems to have a negative but decreasing effect on both employment and average income. This cumulative feature seems to hold in the three panels, although the magnitude differs in each one.

Our results suggests that news have a negative but decreasing effect. This means that one extra new has a weaker effect if in previous months there was a larger stock of news. This finding makes perfect sense. An extra new released when previous tindings had already been published may make the future stricter threat less credible; so the firm may be less willing to react.

Indeed, too much news could decrease the credibility of this threat since each additional new itself becomes less believable. If nothing happened when previous news were released, why now would be different? On the other hand, if it is a one time release it might have a larger effect as it represents a first impression, making firms be more cautious towards this possible threat.

7.5 The size matters

As mentioned earlier, we also estimated the effect of expectations through the average size of the news in each month and its average distance to the front page of "Gestion". Recall that our variables were normalized so that the area variable represents the new's size as a percentage of the whole page while the page variable represents the average page of all the news in one month as a percentage of the total pages of the newspaper.

We first verify if bigger news had a greater effect on both employment and average income. Results are shown in Tables 16 to 18. As for employment, the substitution effect between formal to informal employment we found earlier still appears; specially for the age and gender panel (Tables 16 and 18). Indeed, a negative and significant effect appears in almost all three lags of the area variable for formal employment, while we found a non-significant impact when analyzing overall employment. As for income, we can also see a negative and significant effect in formal and overall average income, but this result only is significant for the age panel.

We also estimated differential effect of the size of news according to its distance to the front page. The main results are shown in Tables 19 to 21. For employment, we found that a bigger new has a greater negative impact if it is closer to the front page of the newspaper. This can be seen as the area variable has a negative effect, while the interaction between area and page is positive. This result is robust for all three panels, although the significance for each one is not. As for income, we found a negative but non-significant impact in all three panels; and that this negative effect is reduced if the new is further from the front page.

7.6 Alternative Specifications

This section presents some alternative specifications from our previous estimation. First, we estimate for each panel the impact of our expectations index up to three lags on each of our labor variables; introducing each one of them sequentially without controlling for any other effect. Results are shown from Tables 22 to 33. It can be seen that this estimation is considerable upwardly biased compared to the results presented above.

We arrived to this same conclussion when we analyze also heterogeneous growth effects without controlling for other variables. Main findings obtained above does not change so much; the main difference is in terms of magnitude. These estimations ares shown from Tables 38 to 45 in the Appendix. To correct this bias we added the control variables mentioned before: GDP levels (in millions), population and stock of universities each quarter. As can be seen from Tables 50 to 57, the effect of expectations reduces considerably when we control for this supply shocks; even making statistically zero this impact for overall employment. Columns (3) and (6) of this group of Tables for each panel are the ones presented above.

We also were interested in calculating differential effects across the demographic groups we established for our panel. For that purpose, we created dummy variables according to each category in every panel dataset. Since this identification method for heterogeneous demographic impacts using a fixed effects estimation was not very clear, we also used a pool estimation for each panel. Tables 62 to 69 show this results. Our findings regarding this effects are really vague, as it is hard to find some robust and credible estimates across all panels. Nevertheless, at a very general level, we can state that greater expectations for more labor rigidities affects more the female and youngest workers.

Finally, we estimated the news effect controlling for the electoral cycle. As can be seen, the general conclussion is not altered inany of the three panels estimated (Tables 72 to 70). Indeed, news still have a negative and significant effect in formal employment and no effect in total employment, evidence of the substitution effect from formal to informal employment explained above. As for average income,

8 Conclussions

The effects of regulations is far from being neutral. Until recently, literature has focused mainly on the direct impact of stricter Employment Protection Legistlation; obtaining different results on whether it rises or decreases both employment and average income. Nevertheless, most of these studies have not taken into account that firms are rational agents who reacts not only after the change in labor rigidities; but also before its implementation if they have some strong evidence of these future changes. This paper has estimated this indirect, ex-ante channel that embodies firms's expectations.

For this purpose, we use the proposal of the General Labor Law. This project was first released in 2001 and has been discussed since then; but has not yet been approved. This law mainly proposes higher rigidities in the labor market. Namely, it seeks to increase the compensation for unfair dismissal, reduce the duration of temporary contracts and rise the cost of incorporation as a cause of wrongful dismissal cases referred to the Constitutional Court. In this sense, we use the number of news related to the approval of the General Labor Law as a mechanism to account for firm's expectations.

Our findings shows little doubt that expectations in Peru plays a significant role in firm's decisions. Higher news related to a future stringent market leads to a reduction in both employment and average income. However, this negative effect of expectations is mainly in formal employment, suggesting a substitution of formal to informal labor. This means that expectations towards stricter labor rigidities causes an increase in the informal labor market by reducing formal employment.

Expectations also have a negative impact on average income; affecting mainly wages for all workers rather than only formal. a reasonable explanation for this finding is that the supply change is greater than the demand change in labor; as well as the effect of contracts rigidity. Our results allows us to aseverate that the effect of expectations is different between periods with higher and lower GDP growth rates; although direction and magnitude cannot be stated as conclusively as previous results. Finally, we discover some evidence supporting that news have a decreasing effect in both employment and average income. What is behind this result is credibility. A larger stock of previous news would make an extra one less believable since these previous news entailed no real impact on legislation.

The analysis reinforces the idea that government regulations do not always met their goals. When implementing Employment Protection, policy-makers should be really careful since they, unintentionally, do not always take into account the real consequences of this legislations. There are many channels through which stricter labor rigidities can have an important impact on agents behaviour even if it has not yet been implemented, being an important one expectations. Although it is almost impossible that the policy makers could account for all of them, they must be more analytic

when making such an important decision. Future research involving this other channels will be of considerable help to understand genuinely the impact of labor regulations.

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Appendix

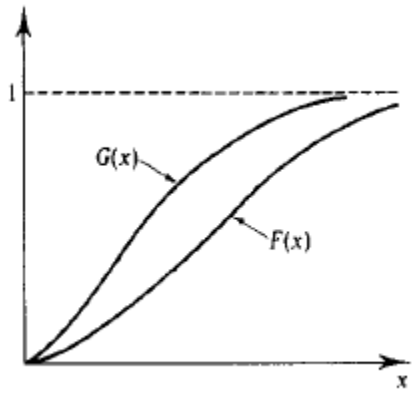
First Order Stochastic Dominance[15]

The distribution $F(.)$ first order stochastically dominates $G(.)$ if, for every nondecreasing function $u: \mathbb{R} \to \mathbb{R}$, we have:

$$\int u(x)dF(x) \geq \int u(x)dG(x)$$

A corollary of this definition is that $F(.)$ first order stochastically dominates $G(.)$ if and only if $F(x) \leq G(x)$ for every x (Proof in Mas-Colell et al, 1995). The next figure shows an example of First Order Stochastic Dominance:

Figure 7: First Order Stochastic Dominance



If we think the function $u(.)$ as a utility function, this means that the distribution $F(.)$ has a greater expected utility than the distribution $G(.)$. In our context, saying that the cumulative distribution of formal productivity $G_f(\varepsilon)$ first order stochastically dominates the cumulative distribution of informal productivity $G_i(\varepsilon)$ means that formal employment has a greater expected productivity than informal employment.

[15] From Mas-Colell et al. (1995)

Variables Used

Table 4: Variables Description

Variable	Source	Description
Occupied EAP	Permanent Employment Survey	Total number of employed workers for each moving quarter. Available at worker's characteristics: gender, age and education level.
Average Income	Permanent Employment Survey	The average monthly income of all employed workers for each moving quarter. Available at worker's characteristics: gender, age and education level.
Formal Occupied EAP	Permanent Employment Survey	Total number of formal employed workers in each moving quarter. Formal is defined as having health insurance. Available at worker's characteristics.
Formal Average Income	Permanent Employment Survey	Average monthly income for all formal employed workers. Available at worker's characteristics: gender, age and education level.
Expectations Index	Gestion	A monthly series that compilates number of news related to the General Labor Law from January 2001 to May of 2012.
GDP	Central Reserve Bank	It is expressed in millions. A quarterly series that goes from the first quarter of 2001 to the second quarter of 2012.
Stock of Universities	National Assembly of Rectors	A monthly series thar accounts for the number of public and private universities in Peru in each month since 2001.
Population	National Institute of Statistics and Informatics	Total number of habitants in Peru expressed in millions, also divided by worker's characteristics: gender and age. Not available by education level.
Elec	"El Comercio" Newspaper	Takes the value of one six months earlier to the two election period that took place during our sample: (i) June 2006 and (ii) April 2011
Area	Gestion	Average area of all the news per month divided by the total area of one page (1,036 cm^2)
Page	Gestion	Average page of all the news per month divided by the number of pages in Gestion (35).

Estimations

General Model

Table 5: Age Panel: Employment and Average Income

	Overall Employment	Formal Employment	Overall Income	Formal Income
	(1)	(2)	(3)	(4)
News	-.725	-2.471	1.225	-1.895
	(0.402)*	(0.48)***	(1.619)	(0.325)***
News-1	-.450	-1.921	-1.221	-.464
	(0.67)	(0.626)***	(0.524)**	(1.285)
News-2	-.262	-1.527	-2.555	-.886
	(0.467)	(0.702)**	(0.211)***	(0.506)*
News-3	0.159	-1.847	-2.748	-1.857
	(0.692)	(0.74)**	(0.731)***	(0.529)***
GDP	0.31	0.495	1.329	1.804
	(0.066)***	(0.175)***	(0.166)***	(0.215)***
Univ	2.043	3.403	4.649	3.690
	(1.172)*	(1.460)**	(0.511)***	(0.937)***
Popul	161.316	29.981	173.103	224.126
	(83.903)*	(81.415)	(24.113)***	(52.717)***
N	390	390	333	390
R^2	0.812	0.722	0.932	0.904

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 6: Gender Panel: Employment and Average Income

	Overall Employment	Formal Employment	Overall Income	Formal Income
	(1)	(2)	(3)	(4)
ind-exp	-1.117	-3.701	1.086	-1.322
	(0.801)	(0.285)***	(0.43)**	(0.564)**
L.ind-exp	-.769	-2.956	-1.569	-.592
	(0.277)***	(0.448)***	(0.293)***	(0.367)
L2.ind-exp	-.497	-2.375	-2.313	-.709
	(0.519)	(0.476)***	(0.132)***	(0.178)***
L3.ind-exp	0.047	-2.877	-3.476	-1.634
	(0.964)	(0.548)***	(0.885)***	(0.511)***
pbi-niv	0.364	0.643	1.237	1.489
	(0.355)	(0.231)***	(0.05)***	(0.207)***
univ	2.448	4.595	4.478	3.401
	(0.21)***	(0.115)***	(1.515)***	(0.601)***
pob-gend	189.848	50.624	139.797	156.376
	(11.865)***	(22.853)**	(0.277)***	(13.384)***
N	260	260	222	260
R^2	0.947	0.934	0.925	0.92

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Differential Growth Effects

Table 7: Education Panel: Employment and Average Income with year heterogeneous effects

	Overall Employment	Formal Employment	Overall Income	Formal Income
	(1)	(2)	(3)	(4)
News	-.853	-1.249	0.539	-.766
	(1.405)	(0.604)**	(2.815)	(0.325)**
News-1	-1.133	-.902	-1.136	0.811
	(0.413)***	(0.359)**	(1.040)	(1.121)
News-2	-.784	-.452	0.215	-.337
	(0.713)	(0.39)	(0.754)	(0.534)
News-3	-.683	-1.197	-5.287	-1.071
	(1.342)	(1.080)	(3.649)	(1.151)
News-Year	0.203	-1.157	-1.855	2.293
	(1.613)	(0.686)*	(4.041)	(1.904)
News-Year-1	1.471	-.575	-.990	0.186
	(1.035)	(0.213)***	(0.905)	(1.026)
News-Year-2	0.834	-1.040	-3.468	1.404
	(1.474)	(0.37)***	(0.749)***	(1.529)
News-Year-3	1.198	0.901	3.112	0.678
	(2.928)	(1.887)	(3.887)	(1.998)
GDP	0.206	0.221	1.037	0.923
	(0.398)	(0.155)	(0.285)***	(0.362)**
Univ	1.355	2.044	4.593	2.856
	(0.763)*	(0.779)***	(0.803)***	(0.295)***
Popul	40.520	21.609	54.008	85.621
	(25.349)	(9.680)**	(10.385)***	(29.271)***
N	484	464	444	464
R^2	0.53	0.672	0.86	0.796

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Year is the interaction between our year dummy and the contemporaneous value of the News variable. Similarly, News_year 1, 2 and 3 represents the interaction between our year dummy and the first, second and third lag of the News variable; respectively.

Table 8: Age Panel: Employment and Average Income with year heterogeneous effects

	Overall Employment	Formal Employment	Overall Income	Formal Income
	(1)	(2)	(3)	(4)
News	-.768	-2.460	2.025	-3.364
	(0.413)*	(0.735)***	(2.364)	(0.403)***
News-1	-1.198	-1.619	-.389	-1.377
	(0.753)	(0.624)***	(0.746)	(0.935)
News-2	-.763	-1.210	-2.681	-1.291
	(0.493)	(0.542)**	(1.231)**	(0.2)***
News-3	-.474	-2.716	-3.372	-3.213
	(0.9)	(1.416)*	(0.241)***	(0.915)***
News-Year	-.131	-.809	-2.397	3.484
	(0.993)	(0.904)	(1.852)	(1.143)***
News-Year-1	1.830	-.286	-1.330	2.124
	(0.417)***	(0.453)	(0.904)	(1.242)*
News-Year-2	0.98	-.857	-.025	1.282
	(1.078)	(0.499)*	(1.755)	(1.413)
News-Year-3	1.440	2.307	2.042	1.836
	(0.806)*	(1.675)	(2.010)	(1.696)
GDP	0.286	0.486	1.333	1.741
	(0.076)***	(0.165)***	(0.175)***	(0.196)***
Univ	1.990	3.409	4.684	3.560
	(1.211)	(1.454)**	(0.521)***	(0.921)***
Popul	158.695	29.518	174.703	219.192
	(84.885)*	(82.193)	(21.539)***	(50.910)***
N	390	390	333	390
R^2	0.814	0.722	0.932	0.906

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Year is the interaction between our year dummy and the contemporaneous value of the News variable. Similarly, News_year 1, 2 and 3 represents the interaction between our year dummy and the first, second and third lag of the News variable; respectively.

Table 9: Gender Panel: Employment and Average Income with year heterogeneous effects

	Overall Employment	Formal Employment	Overall Income	Formal Income
	(1)	(2)	(3)	(4)
News	-1.192	-3.645	1.746	-2.678
	(2.086)	(0.505)***	(1.568)	(0.065)***
News-1	-1.752	-2.386	-.513	-1.101
	(0.406)***	(0.42)***	(0.42)	(0.164)***
News-2	-1.087	-1.820	-1.345	-.693
	(0.734)	(0.751)**	(0.146)***	(0.101)***
News-3	-.643	-3.961	-3.015	-2.200
	(0.173)***	(1.012)***	(1.829)*	(0.827)***
News-Year	-.063	-1.205	-1.546	3.548
	(3.048)	(0.378)***	(3.443)	(0.87)***
News-Year-1	2.369	-.752	-1.856	1.027
	(0.277)***	(0.004)***	(0.851)**	(0.816)
News-Year-2	1.156	-1.437	-1.857	0.435
	(0.022)***	(0.659)**	(0.439)***	(0.224)*
News-Year-3	1.552	2.966	-.073	0.069
	(0.772)**	(0.88)***	(3.101)	(2.777)
GDP	0.354	0.636	1.201	1.465
	(0.334)	(0.224)***	(0.046)***	(0.232)***
Univ	2.477	4.619	4.317	3.392
	(0.22)***	(0.126)***	(1.538)***	(0.58)***
Popul	183.988	50.454	154.729	151.638
	(8.908)***	(20.894)**	(1.895)***	(18.920)***
N	260	260	222	260
R^2	0.948	0.934	0.927	0.921

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Year is the interaction between our year dummy and the contemporaneous value of the News variable. Similarly, News_year 1, 2 and 3 represents the interaction between our year dummy and the first, second and third lag of the News variable; respectively.

Table 10: Education Panel: Employment and Average Income with growth heterogeneous effects

	Overall Employment	Formal Employment	Overall Income	Formal Income
	(1)	(2)	(3)	(4)
News	-1.233	-1.024	3.091	2.857
	(1.292)	(0.498)**	(3.649)	(1.095)***
News-1	-1.125	-1.259	1.087	-.217
	(0.315)***	(0.39)***	(0.561)*	(0.908)
News-2	-.075	-.366	0.724	-.248
	(1.193)	(0.303)	(0.283)**	(1.298)
News-3	0.433	-.720	-4.284	-1.786
	(1.407)	(0.842)	(4.962)	(1.992)
News-Growth	0.922	-.943	-3.824	-4.143
	(1.081)	(0.622)	(2.861)	(0.729)***
News-Growth-1	0.985	0.167	-3.911	2.130
	(0.584)*	(0.338)	(1.477)***	(1.052)**
News-Growth-2	-.336	-.787	-3.043	0.73
	(1.779)	(0.179)***	(1.185)**	(1.970)
News-Growth-3	-.797	-.328	1.082	2.160
	(1.774)	(0.872)	(4.353)	(2.895)
GDP	0.198	0.23	1.020	0.919
	(0.403)	(0.156)	(0.272)***	(0.347)***
Univ	1.323	1.960	3.992	2.737
	(0.732)*	(0.751)***	(0.666)***	(0.228)***
Popul	43.307	22.008	65.130	91.072
	(27.554)	(10.063)**	(12.490)***	(28.474)***
N	484	464	444	464
R^2	0.529	0.672	0.863	0.796

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 11: Age Panel: Employment and Average Income with growth heterogeneous effects

	Overall Employment	Formal Employment	Overall Income	Formal Income
	(1)	(2)	(3)	(4)
News	-1.487	-2.148	3.848	0.498
	(1.366)	(1.129)*	(3.062)	(0.652)
News-1	-1.280	-2.556	-.588	-4.284
	(1.386)	(0.765)***	(0.976)	(1.117)***
News-2	-.109	-.940	-.778	-.189
	(0.966)	(0.777)	(0.848)	(0.715)
News-3	0.644	-1.901	-1.751	-2.763
	(0.187)***	(0.974)*	(0.256)***	(1.247)**
News-Growth	1.227	-.565	-4.187	-4.038
	(1.666)	(1.796)	(2.264)*	(1.563)***
News-Growth-1	1.208	1.084	-.189	6.119
	(1.021)	(0.149)***	(1.265)	(2.135)***
News-Growth-2	-.221	-1.023	-2.568	-1.217
	(1.042)	(1.435)	(1.461)*	(0.524)**
News-Growth-3	-.912	0.123	-1.208	1.008
	(1.128)	(0.545)	(0.611)**	(1.614)
GDP	0.3	0.504	1.398	1.819
	(0.07)***	(0.185)***	(0.177)***	(0.235)***
Univ	2.063	3.386	4.452	3.674
	(1.228)*	(1.487)**	(0.353)***	(0.954)***
Popul	159.883	30.470	183.958	223.514
	(86.437)*	(84.858)	(17.376)***	(54.150)***
N	390	390	333	390
R^2	0.813	0.722	0.935	0.905

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 12: Gender Panel: Employment and Average Income with growth heterogeneous effects

	Overall Employment	Formal Employment	Overall Income	Formal Income
	(1)	(2)	(3)	(4)
News	-1.721	-2.722	3.967	0.363
	(1.234)	(0.472)***	(1.053)***	(1.408)
News-1	-1.804	-3.735	0.228	-3.154
	(0.366)***	(0.836)***	(0.342)	(0.742)***
News-2	-.002	-1.263	-.157	-.314
	(0.4)	(1.077)	(0.894)	(0.695)
News-3	1.003	-2.824	-1.842	-2.814
	(0.208)***	(1.703)*	(1.956)	(0.94)***
News-Growth	0.874	-1.713	-4.173	-2.762
	(0.846)	(1.128)	(0.85)***	(1.231)**
News-Growth-1	1.684	1.517	-1.752	3.999
	(0.376)***	(0.427)***	(0.15)***	(1.439)***
News-Growth-2	-.754	-1.912	-2.832	-.761
	(0.1)***	(0.936)**	(1.825)	(1.396)
News-Growth-3	-1.624	0.058	-1.741	1.590
	(1.217)	(1.677)	(1.944)	(1.976)
GDP	0.368	0.659	1.202	1.498
	(0.35)	(0.228)***	(0.056)***	(0.217)***
Univ	2.457	4.478	3.767	3.433
	(0.131)***	(0.183)***	(1.492)**	(0.476)***
Popul	189.049	54.639	171.981	154.512
	(8.994)***	(20.570)***	(0.242)***	(18.454)***
N	260	260	222	260
R^2	0.947	0.934	0.93	0.921

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Cumulative Effects

Table 13: Education Panel with quadratic terms: Formal Employment and Average Income

	Formal Employment			Formal Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-4.826	-3.822	-2.418	-12.241	-9.909	-2.807
	(1.936)**	(1.574)**	(1.208)**	(3.852)***	(3.439)***	(0.944)***
News-sqr	0.405	0.29	0.127	1.485	1.218	0.395
	(0.168)**	(0.127)**	(0.092)	(0.528)***	(0.484)**	(0.225)*
News-1	-9.156	-3.395	-1.915	-21.401	-8.028	-.541
	(3.573)**	(1.511)**	(1.047)*	(4.027)***	(1.568)***	(1.186)
News-sqr-1	0.925	0.283	0.099	2.612	1.122	0.191
	(0.379)**	(0.158)*	(0.121)	(0.559)***	(0.308)***	(0.148)
News-2	-9.565	-3.290	-2.049	-18.504	-3.936	2.342
	(3.566)***	(1.282)**	(0.823)**	(3.092)***	(1.170)***	(2.239)
News-sqr-2	0.877	0.3	0.158	1.766	0.426	-.288
	(0.321)***	(0.113)***	(0.073)**	(0.317)***	(0.144)***	(0.242)
News-3	-10.610	-3.317	-2.422	-18.315	-1.384	3.146
	(3.881)***	(1.263)***	(0.853)***	(3.617)***	(1.140)	(1.555)**
News-sqr-3	0.942	0.297	0.196	1.568	0.071	-.441
	(0.336)***	(0.101)***	(0.062)***	(0.34)***	(0.147)	(0.192)**
GDP	2.435	0.415	0.24	6.460	1.770	0.884
	(0.86)***	(0.22)*	(0.156)	(1.497)***	(0.629)***	(0.332)***
Univ		2.913	2.129		6.762	2.798
		(1.070)***	(0.797)***		(1.258)***	(0.31)***
Popul			17.858			90.347
			(8.984)**			(33.070)***
N	464	464	464	464	464	464
R^2	0.387	0.665	0.672	0.446	0.761	0.797

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_sqr is the square of the expectations index. Similarly, News_sqr 1, 2 and 3 represents the square of the first, second and third lag of the News variable; respectively.

Table 14: Age Panel with quadratic terms: Formal Employment and Average Income

	Formal Employment			Formal Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-3.982	-4.327	-3.931	-9.082	-9.754	-6.679
	(0.616)***	(0.746)***	(1.155)***	(4.303)**	(4.415)**	(2.749)**
News-sqr	0.295	0.296	0.244	1.054	1.057	0.65
	(0.056)***	(0.057)***	(0.14)*	(0.531)**	(0.532)**	(0.324)**
News-1	-8.757	-3.489	-3.154	-16.061	-5.770	-3.164
	(3.260)***	(1.179)***	(1.031)***	(3.352)***	(1.733)***	(0.395)***
News-sqr-1	0.885	0.261	0.211	1.965	0.746	0.355
	(0.361)**	(0.125)**	(0.076)***	(0.573)***	(0.385)*	(0.202)*
News-2	-9.783	-3.716	-3.477	-12.155	-.306	1.559
	(4.412)**	(2.013)*	(1.861)*	(1.959)***	(1.688)	(2.530)
News-sqr-2	0.853	0.321	0.288	0.947	-.092	-.348
	(0.403)**	(0.193)*	(0.168)*	(0.24)***	(0.217)	(0.295)
News-3	-12.057	-4.257	-4.145	-13.822	1.414	2.280
	(5.005)**	(1.920)**	(1.854)**	(3.214)***	(2.907)	(3.492)
News-sqr-3	1.042	0.36	0.34	0.942	-.391	-.544
	(0.448)**	(0.178)**	(0.167)**	(0.392)**	(0.428)	(0.489)
GDP	3.729	0.571	0.48	8.633	2.464	1.758
	(1.545)**	(0.337)*	(0.177)***	(1.505)***	(0.518)***	(0.194)***
Univ		3.890	3.392		7.598	3.726
		(1.542)**	(1.476)**		(1.237)***	(0.914)***
Popul			28.679			223.164
			(82.249)			(52.697)***
N	390	390	390	390	390	390
R^2	0.397	0.719	0.724	0.483	0.825	0.905

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_sqr is the square of the expectations index. Similarly, News_sqr 1, 2 and 3 represents the square of the first, second and third lag of the News variable; respectively.

Table 15: Gender Panel with quadratic terms: Formal Employment and Average Income

	Formal Employment			Formal Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-5.960	-6.476	-5.536	-8.113	-8.766	-5.705
	(0.421)***	(0.485)***	(0.003)***	(1.744)***	(1.839)***	(1.455)***
News-sqr	0.437	0.439	0.311	1.011	1.014	0.598
	(0.031)***	(0.031)***	(0.031)***	(0.132)***	(0.133)***	(0.092)***
News-1	-13.174	-5.276	-4.489	-14.661	-4.670	-2.109
	(2.143)***	(1.183)***	(0.771)***	(1.469)***	(0.069)***	(0.289)***
News-sqr-1	1.326	0.391	0.269	1.790	0.607	0.21
	(0.221)***	(0.108)***	(0.048)***	(0.098)***	(0.068)***	(0.111)*
News-2	-14.749	-5.656	-5.108	-12.528	-1.026	0.758
	(1.837)***	(0.731)***	(0.428)***	(0.782)***	(0.832)	(1.135)
News-sqr-2	1.281	0.483	0.404	1.055	0.046	-.212
	(0.14)***	(0.043)***	(0.004)***	(0.031)***	(0.173)	(0.202)
News-3	-18.239	-6.546	-6.345	-14.452	0.338	0.993
	(3.168)***	(1.748)***	(1.581)***	(0.425)***	(1.652)	(1.956)
News-sqr-3	1.576	0.554	0.509	1.105	-.189	-.335
	(0.287)***	(0.162)***	(0.138)***	(0.133)***	(0.315)	(0.341)
GDP	5.584	0.85	0.635	8.141	2.153	1.452
	(0.925)***	(0.349)**	(0.239)***	(1.128)***	(0.289)***	(0.198)***
Univ		5.831	4.628		7.376	3.456
		(0.711)***	(0.116)***		(1.036)***	(0.611)***
Popul			47.494			154.680
			(22.787)**			(14.349)***
N	260	260	260	260	260	260
R^2	0.513	0.929	0.935	0.506	0.885	0.921

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_sqr is the square of the expectations index. Similarly, News_sqr 1, 2 and 3 represents the square of the first, second and third lag of the News variable; respectively.

Size Matters

Table 16: Age Panel: Only Area results

	Overall-Employment	Overall-Income	Formal-Employment	Formal-Income
	(1)	(2)	(3)	(4)
area	1.483	-1.735	-12.857	-16.403
	(4.771)	(3.571)	(2.666)***	(5.646)***
area-1	-1.859	-10.527	-10.793	-11.702
	(2.899)	(2.752)***	(3.182)***	(4.140)***
area-2	1.097	-6.427	-8.549	-8.079
	(5.611)	(3.296)*	(4.292)**	(4.684)*
area-3	-.573	-12.763	-15.422	-.460
	(5.568)	(5.790)**	(7.142)**	(8.567)
GDP	0.165	1.117	0.45	1.693
	(0.089)*	(0.233)***	(0.249)*	(0.158)***
Univ	1.474	4.151	2.804	3.384
	(0.351)***	(0.91)***	(0.904)***	(1.084)***
Popul	0.00007	0.00007	0.00002	0.00008
	(0.00003)**	(4.94e-06)***	(1.00e-05)	(0.00005)*
m-2	-4.827	-2.583	-.117	4.175
	(8.566)	(1.592)	(2.488)	(2.448)*
m-3	2.651	0.004	3.576	5.981
	(10.439)	(1.143)	(5.113)	(2.799)**
m-4	-.977	9.311	4.147	14.557
	(8.132)	(3.500)***	(8.076)	(3.516)***
m-5	-.221	10.322	5.210	8.953
	(8.367)	(3.471)***	(6.687)	(0.643)***
m-6	1.407	6.030	1.669	11.968
	(9.310)	(5.171)	(2.500)	(5.110)**
m-7	8.361	13.448	4.455	19.111
	(14.934)	(1.407)***	(3.357)	(9.589)**
m-8	14.584	13.470	6.235	33.824
	(13.002)	(2.166)***	(3.697)*	(12.223)***
m-9	8.793	24.970	2.262	29.112
	(6.272)	(3.529)***	(2.020)	(18.746)
m-10	13.390	30.244	2.478	26.967
	(9.842)	(4.868)***	(1.359)*	(15.527)*
m-11	-3.370	12.443	-5.259	1.337
	(19.637)	(5.976)**	(6.784)	(7.117)
m-12	1.035	5.421	-2.505	1.692
	(10.580)	(5.840)	(2.719)	(2.762)
Obs	390	333	390	390
R^2	0.032	0.287	0.124	0.326

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables with the prefix m denotes the month dummies. For example, m-2 takes the value of one if the observation correspond to February, m-3 to March, m-4 to April and so on.

Table 17: Education Panel: Only Area results

	Overall-Employment	Overall-Income	Formal-Employment	Formal-Income
	(1)	(2)	(3)	(4)
area	0.001	-10.631	-9.206	4.614
	(8.687)	(2.715)**	(3.320)*	(6.602)
area-1	-2.729	-8.950	-7.828	8.423
	(3.110)	(4.729)	(2.781)*	(9.111)
area-2	0.205	-4.428	-5.627	-.576
	(2.684)	(2.103)	(2.063)*	(5.245)
area-3	-1.168	-21.367	-9.960	5.160
	(4.835)	(7.714)*	(3.397)*	(5.592)
GDP	0.158	0.921	0.249	0.574
	(0.416)	(0.223)**	(0.153)	(0.217)*
Univ	1.158	4.415	1.942	2.260
	(0.807)	(0.734)**	(0.71)*	(0.449)**
Popul	47.074	52.700	19.145	106.479
	(31.427)	(10.285)**	(10.226)	(40.996)*
m-2	-3.579	-1.544	-1.009	2.133
	(7.276)	(2.720)	(2.001)	(2.149)
m-3	1.909	1.196	2.547	5.891
	(5.658)	(3.330)	(2.037)	(1.279)**
m-4	-.368	14.471	4.690	11.385
	(4.016)	(9.028)	(3.271)	(7.055)
m-5	0.688	13.476	5.680	13.000
	(7.597)	(7.909)	(5.055)	(11.274)
m-6	2.093	8.774	4.421	22.972
	(8.653)	(3.592)*	(4.012)	(10.357)
m-7	7.031	15.958	6.310	29.096
	(10.444)	(4.527)**	(4.661)	(14.007)
m-8	10.371	16.495	8.315	45.003
	(13.785)	(4.954)**	(5.673)	(20.243)
m-9	5.077	28.073	5.614	45.932
	(15.049)	(7.642)**	(5.951)	(20.647)
m-10	8.624	31.105	5.708	45.438
	(16.377)	(9.787)**	(6.282)	(18.885)*
m-11	-2.459	16.025	-3.412	9.628
	(8.225)	(10.688)	(4.306)	(7.225)
m-12	0.118	8.380	-2.154	6.920
	(3.921)	(10.408)	(2.565)	(5.337)
Obs	484	444	464	464
R^2	0.013	0.078	0.141	0.102

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables with the prefix m denotes the month dummies. For example, m-2 takes the value of one if the observation correspond to February, m-3 to March, m-4 to April and so on.

Table 18: Gender Panel: Only Area results

	Overall-Employment	Overall-Income	Formal-Employment	Formal-Income
	(1)	(2)	(3)	(4)
area	2.227	-2.822	-19.392	-12.390
	(2.203)	(6.985)	(1.296)**	(1.504)*
area-1	-2.791	-10.155	-16.463	-5.759
	(2.066)	(7.913)	(0.005)***	(3.764)
area-2	1.642	-10.226	-13.031	-6.945
	(3.158)	(0.209)**	(1.336)*	(4.404)
area-3	-.857	-17.892	-23.692	-5.143
	(4.575)	(3.841)	(4.863)	(6.099)
GDP	0.248	1.134	0.677	1.339
	(0.394)	(0.125)*	(0.212)	(0.199)*
Univ	2.210	4.352	4.245	3.006
	(0.118)**	(1.709)	(0.109)**	(0.777)
Popul	0.0001	0.00007	0.00003	0.00008
	(6.07e-06)**	(5.14e-06)**	(1.00e-05)	(5.24e-06)**
m-2	-7.245	0.773	-.537	4.222
	(1.845)	(3.629)	(0.603)	(2.425)
m-3	3.977	2.968	4.764	7.251
	(8.510)	(4.617)	(0.305)**	(2.989)
m-4	-1.470	10.854	5.672	14.917
	(2.166)	(6.467)	(2.152)	(5.045)
m-5	-.330	10.739	7.238	9.424
	(0.979)	(2.864)	(5.880)	(7.333)
m-6	2.126	8.204	2.027	11.819
	(5.759)	(2.118)	(7.460)	(13.991)
m-7	12.534	16.471	6.334	22.383
	(1.057)*	(1.032)**	(7.647)	(13.804)
m-8	21.883	15.257	8.956	34.402
	(2.002)*	(2.932)	(7.269)	(6.395)
m-9	13.190	25.997	3.015	30.825
	(3.363)	(2.701)*	(6.529)	(8.735)
m-10	20.090	28.598	3.888	27.346
	(6.862)	(4.588)	(10.453)	(9.477)
m-11	-5.052	11.625	-7.281	0.185
	(8.797)	(0.784)**	(3.813)	(6.069)
m-12	1.543	4.012	-3.195	1.358
	(4.841)	(3.172)	(3.293)	(1.217)
Obs	260	222	260	260
R^2	0.30	0.41	0.757	0.381

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables with the prefix m denotes the month dummies. For example, m-2 takes the value of one if the observation correspond to February, m-3 to March, m-4 to April and so on.

Table 19: Age Panel: Area and Page results

	Overall-Employment	Overall-Income	Formal-Employment	Formal-Income
	(1)	(2)	(3)	(4)
area	-27.344	-11.946	-27.683	-19.709
	(3.602)**	(12.814)	(5.617)**	(6.269)*
area-1	-25.661	-16.881	-18.623	-9.503
	(5.831)**	(9.103)	(3.424)**	(5.633)
area-2	-11.751	-12.229	-16.438	-4.822
	(11.058)	(10.983)	(3.730)**	(5.284)
area-3	-10.458	-13.856	-21.030	9.827
	(8.722)	(4.522)*	(5.893)*	(7.851)
area-page	64.613	23.562	33.637	11.138
	(9.431)**	(26.229)	(8.061)*	(13.479)
area-page-1	60.171	16.753	19.567	-4.111
	(9.415)**	(24.757)	(1.083)***	(9.160)
area-page-2	37.992	17.528	22.771	-7.129
	(14.624)	(22.302)	(4.268)**	(4.195)
area-page-3	21.481	2.768	12.078	-28.529
	(9.012)	(10.368)	(5.407)	(6.525)**
GDP	0.137	1.107	0.431	1.757
	(0.114)	(0.276)*	(0.267)	(0.139)***
Univ	1.413	4.135	2.776	3.386
	(0.347)*	(0.921)**	(0.906)*	(1.088)*
Popul	0.00007	0.00007	0.00002	0.00008
	(0.00003)	(3.11e-06)***	(1.00e-05)	(0.00005)
m-2	-6.837	-2.400	-.442	4.924
	(8.760)	(1.583)	(2.547)	(2.540)
m-3	2.388	0.368	4.231	5.885
	(10.485)	(1.246)	(5.230)	(2.266)
m-4	4.573	11.796	7.226	15.843
	(8.682)	(2.822)*	(8.853)	(3.158)**
m-5	6.240	13.653	8.387	9.735
	(9.495)	(0.291)***	(7.134)	(1.140)**
m-6	11.209	10.759	7.148	11.854
	(11.122)	(7.749)	(2.938)	(5.580)
m-7	15.880	16.712	8.018	17.233
	(16.752)	(3.664)**	(3.345)	(9.065)
m-8	19.342	16.668	9.553	33.461
	(14.607)	(3.909)*	(3.592)	(12.659)
m-9	12.699	26.749	4.674	26.806
	(6.893)	(2.015)***	(1.703)	(18.740)
m-10	15.253	31.761	3.826	27.255
	(9.601)	(3.285)**	(1.225)*	(15.897)
m-11	-4.183	12.107	-5.170	0.573
	(19.306)	(5.547)	(7.099)	(6.950)
m-12	1.966	6.194	-1.151	2.071
	(10.459)	(5.926)	(2.532)	(3.393)
Obs	390	333	390	390
R^2	0.032	0.287	0.124	0.326

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables with the prefix m denotes the month dummies. For example, m-2 takes the value of one if the observation correspond to February, m-3 to March, m-4 to April and so on.

Table 20: Education Panel: Area and Page results

	Overall-Employment	Overall-Income	Formal-Employment	Formal-Income
	(1)	(2)	(3)	(4)
area	-23.715	-18.736	-23.213	-8.288
	(12.633)	(2.562)***	(10.304)	(7.016)
area-1	-22.723	-12.123	-20.574	-5.437
	(6.527)**	(8.813)	(8.530)*	(8.886)
area-2	-9.300	-17.566	-18.281	-12.766
	(3.295)*	(8.698)	(7.916)	(7.664)
area-3	-7.344	-29.141	-19.304	4.540
	(7.844)	(4.184)***	(8.021)*	(11.568)
area-page	52.539	14.427	29.476	27.676
	(18.520)*	(4.617)*	(15.279)	(22.168)
area-page-1	52.565	7.792	31.365	34.921
	(15.070)**	(30.630)	(15.485)	(11.913)*
area-page-2	33.143	37.834	36.430	35.522
	(11.245)*	(20.299)	(17.384)	(10.614)**
area-page-3	17.717	22.169	28.549	5.456
	(15.091)	(14.020)	(14.907)	(19.666)
GDP	0.089	0.84	0.147	0.521
	(0.454)	(0.281)*	(0.17)	(0.269)
Univ	1.032	4.383	1.826	2.165
	(0.786)	(0.758)***	(0.657)**	(0.435)**
Popul	53.239	55.387	24.776	110.931
	(32.956)	(10.846)**	(12.365)**	(40.207)*
m-2	-5.596	-.308	-1.366	2.649
	(7.788)	(2.378)	(2.116)	(2.129)
m-3	1.112	2.851	3.498	5.817
	(5.398)	(2.950)	(2.253)	(1.668)**
m-4	3.817	16.846	7.890	14.565
	(5.280)	(9.342)	(4.868)	(8.702)
m-5	6.029	16.669	10.710	18.442
	(9.043)	(6.447)*	(6.988)	(13.114)
m-6	10.401	14.770	12.502	30.016
	(11.208)	(1.648)***	(7.251)	(11.744)*
m-7	13.273	21.667	12.993	34.310
	(12.205)	(0.961)***	(7.365)	(13.552)*
m-8	14.474	23.556	14.125	50.170
	(15.329)	(2.749)***	(8.324)	(19.768)*
m-9	8.441	32.621	11.021	48.555
	(16.338)	(5.996)**	(8.555)	(19.263)*
m-10	10.292	34.239	8.593	48.084
	(17.060)	(8.841)**	(7.619)	(18.808)*
m-11	-5.018	17.623	-3.255	9.156
	(7.657)	(10.622)	(4.620)	(6.713)
m-12	-.558	10.637	-1.168	7.331
	(3.914)	(11.894)	(2.735)	(5.441)
Obs	484	444	464	464
R^2	0.013	0.078	0.142	0.103

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables with the prefix m denotes the month dummies. For example, m-2 takes the value of one if the observation correspond to February, m-3 to March, m-4 to April and so on.

Table 21: Gender Panel: Area and Page results

	Overall-Employment	Overall-Income	Formal-Employment	Formal-income
	(1)	(2)	(3)	(4)
area	-41.019	-17.643	-41.150	-16.660
	(6.062)*	(7.547)	(0.055)**	(22.992)
area-1	-38.488	-20.261	-27.778	-2.240
	(3.420)*	(3.477)	(1.002)**	(21.109)
area-2	-17.644	-18.077	-24.537	-.818
	(3.955)	(7.625)	(3.239)*	(12.530)
area-3	-15.691	-19.570	-32.220	10.163
	(4.442)	(3.472)	(10.140)	(4.956)
area-page	96.930	34.251	49.359	15.226
	(19.889)	(6.418)	(4.542)**	(49.555)
area-page-1	90.241	26.600	28.245	-6.681
	(14.429)	(11.196)	(3.315)*	(44.498)
area-page-2	57.027	23.875	33.211	-14.042
	(3.557)**	(21.930)	(4.268)*	(24.899)
area-page-3	32.237	4.356	18.484	-42.388
	(2.134)**	(22.277)	(14.232)	(0.427)**
GDP	0.205	1.120	0.647	1.435
	(0.383)	(0.205)	(0.182)	(0.213)*
Univ	2.120	4.328	4.203	3.011
	(0.105)**	(1.749)	(0.11)**	(0.742)
Popul	0.0001	0.00007	0.00003	0.00008
	(5.47e-06)**	(7.13e-06)**	(1.00e-05)	(7.55e-06)*
m-2	-10.257	0.791	-1.034	5.161
	(1.271)*	(3.632)	(0.528)	(1.374)
m-3	3.584	3.332	5.770	7.048
	(8.438)	(4.309)	(0.737)*	(2.456)
m-4	6.858	14.365	10.184	16.657
	(3.910)	(6.668)	(1.702)	(0.685)**
m-5	9.362	15.538	11.854	10.312
	(2.635)	(2.197)*	(5.478)	(2.284)
m-6	16.834	14.968	10.065	11.205
	(3.689)	(4.381)	(7.780)	(7.304)
m-7	23.815	21.196	11.570	19.347
	(0.136)**	(4.961)	(8.452)	(9.371)
m-8	29.026	19.582	13.820	33.409
	(1.419)**	(0.611)**	(7.850)	(3.292)*
m-9	19.050	28.539	6.626	27.281
	(3.104)	(0.391)**	(7.888)	(10.201)
m-10	22.886	30.658	5.858	27.590
	(6.564)	(3.018)*	(10.566)	(10.985)
m-11	-6.269	10.981	-7.128	-1.047
	(9.450)	(0.466)**	(4.418)	(5.084)
m-12	2.943	4.877	-1.182	1.760
	(4.695)	(3.050)	(3.551)	(0.665)
Obs	260	222	260	260
R^2	0.298	0.41	0.759	0.382

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables with the prefix m denotes the month dummies. For example, m-2 takes the value of one if the observation correspond to February, m-3 to March, m-4 to April and so on.

Alternative Specifications

Expectation Index and Lags

Table 22: Education Panel: Employment

	Overall Employment			
	(1)	(2)	(3)	(4)
News	-9.313	-5.931	-4.845	-4.439
	(4.676)**	(3.310)*	(2.849)*	(2.701)
News-1		-7.057	-4.880	-4.230
		(3.069)**	(2.092)**	(1.831)**
News-2			-5.624	-4.051
			(2.560)**	(1.921)**
News-3				-4.277
				(1.758)**
N	484	484	484	484
R^2	0.044	0.064	0.076	0.083

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 23: Education Panel: Average Income

	Average Income			
	(1)	(2)	(3)	(4)
News	-19.395	-12.054	-9.576	-7.950
	(1.753)***	(0.486)***	(0.409)***	(0.711)***
News-1		-14.904	-10.225	-8.285
		(2.910)***	(2.091)***	(1.597)***
News-2			-11.983	-7.601
			(2.116)***	(1.005)***
News-3				-12.197
				(3.181)***
N	444	444	444	444
R^2	0.08	0.115	0.137	0.16

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 24: Education Panel: Formal Employment

	Formal Employment			
	(1)	(2)	(3)	(4)
News	-9.961	-6.563	-5.603	-5.174
	(3.619)***	(2.396)***	(2.030)***	(1.870)***
News-1		-6.988	-4.957	-4.329
		(2.533)***	(1.756)***	(1.519)***
News-2			-5.093	-3.547
			(1.961)***	(1.371)***
News-3				-4.102
				(1.575)***
N	464	464	464	464
R^2	0.088	0.121	0.138	0.149

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 25: Education Panel: Formal Average Income

	Formal Average Income			
	(1)	(2)	(3)	(4)
News	-18.099	-12.269	-10.481	-9.642
	(3.627)***	(2.516)***	(2.218)***	(2.069)***
News-1		-11.993	-8.210	-6.983
		(2.346)***	(1.737)***	(1.554)***
News-2			-9.483	-6.462
			(1.695)***	(1.148)***
News-3				-8.017
				(1.526)***
N	464	464	464	464
R^2	0.061	0.082	0.094	0.103

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 26: Age Panel: Employment

	Overall Employment			
	(1)	(2)	(3)	(4)
News	-8.083	-5.706	-5.228	-5.218
	(3.058)***	(1.979)***	(1.752)***	(1.714)***
News-1		-5.570	-4.191	-3.907
		(2.568)**	(1.931)**	(1.760)**
News-2			-4.134	-3.211
			(1.893)**	(1.357)**
News-3				-3.077
				(1.643)*
N	399	396	393	390
R^2	0.022	0.033	0.041	0.049

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 27: Age Panel: Average Income

	Average Income			
	(1)	(2)	(3)	(4)
News	-19.174	-11.857	-9.143	-7.659
	(1.728)***	(1.057)***	(0.954)***	(0.892)***
News-1		-14.855	-9.730	-7.959
		(1.664)***	(1.062)***	(0.777)***
News-2			-13.123	-9.123
			(1.668)***	(1.029)***
News-3				-11.137
				(1.878)***
N	333	333	333	333
R^2	0.073	0.107	0.132	0.149

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 28: Age Panel: Formal Employment

	Formal Employment			
	(1)	(2)	(3)	(4)
News	-10.310	-6.926	-6.072	-5.818
	(3.514)***	(2.284)***	(1.933)***	(1.833)***
News-1		-7.285	-5.259	-4.666
		(2.691)***	(1.865)***	(1.639)***
News-2			-5.422	-3.857
			(2.197)**	(1.594)**
News-3				-4.471
				(1.728)***
N	399	396	393	390
R^2	0.055	0.078	0.093	0.105

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 29: Age Panel: Formal Average Income

	Formal Average Income			
	(1)	(2)	(3)	(4)
News	-15.585	-11.152	-10.056	-9.783
	(2.050)***	(2.010)***	(1.980)***	(1.950)***
News-1		-9.954	-7.205	-6.389
		(0.799)***	(0.683)***	(0.646)***
News-2			-7.626	-5.358
			(0.849)***	(0.41)***
News-3				-6.781
				(1.411)***
N	399	396	393	390
R^2	0.034	0.047	0.057	0.066

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 30: Gender Panel: Employment

	Overall Employment			
	(1)	(2)	(3)	(4)
News	-12.127	-8.561	-7.845	-7.830
	(1.028)***	(1.175)***	(1.307)***	(1.392)***
News-1		-8.351	-6.283	-5.856
		(0.271)***	(0.011)***	(0.115)***
News-2			-6.202	-4.817
			(0.615)***	(0.328)***
News-3				-4.616
				(0.713)***
N	266	264	262	260
R^2	0.028	0.041	0.052	0.061

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 31: Gender Panel: Average Income

	Average Income			
	(1)	(2)	(3)	(4)
News	-20.374	-12.613	-9.810	-8.182
	(3.301)***	(1.873)***	(1.375)***	(1.031)***
News-1		-15.759	-10.467	-8.525
		(2.914)***	(1.973)***	(1.563)***
News-2			-13.551	-9.164
			(2.426)***	(1.495)***
News-3				-12.213
				(2.609)***
N	222	222	222	222
R^2	0.079	0.115	0.14	0.16

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 32: Gender Panel: Formal Employment

	Formal Employment			
	(1)	(2)	(3)	(4)
News	-15.557	-10.436	-9.136	-8.748
	(2.188)***	(1.403)***	(1.198)***	(1.149)***
News-1		-11.021	-7.944	-7.045
		(1.669)***	(1.193)***	(1.064)***
News-2			-8.222	-5.854
			(1.259)***	(0.909)***
News-3				-6.760
				(1.024)***
N	266	264	262	260
R^2	0.071	0.102	0.121	0.137

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 33: Gender Panel: Formal Average Income

	Formal Average Income			
	(1)	(2)	(3)	(4)
News	-14.084	-9.960	-8.984	-8.744
	(2.419)***	(1.746)***	(1.640)***	(1.632)***
News-1		-9.422	-6.911	-6.165
		(1.707)***	(1.327)***	(1.203)***
News-2			-7.075	-4.984
			(1.256)***	(0.86)***
News-3				-6.290
				(1.304)***
N	266	264	262	260
R^2	0.033	0.047	0.057	0.067

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Adding Growth Dummies

Table 34: Education Panel: Employment with growth heterogeneous effects

	Overall Employment			
	(1)	(2)	(3)	(4)
News	-10.317	-7.778	-8.336	-8.359
	(4.824)**	(3.676)**	(3.715)**	(3.609)**
News-1	-5.047	-9.277	-10.070	-10.082
	(2.141)**	(4.032)**	(4.204)**	(4.177)**
News-2	-4.133	-4.075	-2.402	-2.425
	(1.952)**	(1.930)**	(2.063)	(1.800)
News-3	-4.456	-4.870	-4.693	-4.616
	(1.828)**	(2.013)**	(1.989)**	(2.605)*
News-Growth	10.148	5.817	6.686	6.712
	(4.360)**	(2.434)**	(2.560)***	(2.529)***
News-Growth-1		6.795	8.128	8.152
		(3.168)**	(3.326)**	(3.271)**
News-Growth-2			-2.893	-2.841
			(2.630)	(2.053)
News-Growth-3				-.132
				(1.816)
N	484	484	484	484
R^2	0.103	0.107	0.108	0.108

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 35: Education Panel: Average Income with growth heterogeneous effects

	Average Income			
	(1)	(2)	(3)	(4)
News	-9.403	-5.005	-8.121	-7.367
	(1.392)***	(1.786)***	(1.633)***	(2.529)***
News-1	-8.469	-15.968	-20.137	-19.681
	(1.532)***	(2.390)***	(2.724)***	(2.219)***
News-2	-7.628	-7.633	1.220	1.772
	(0.998)***	(0.999)***	(0.336)***	(0.362)***
News-3	-12.181	-12.761	-11.777	-13.998
	(3.190)***	(3.260)***	(3.192)***	(5.880)**
News-Growth	2.352	-5.351	-.923	-1.826
	(1.102)**	(1.835)***	(1.580)	(2.670)
News-Growth-1		12.228	18.633	17.862
		(1.436)***	(1.965)***	(1.244)***
News-Growth-2			-14.188	-15.490
			(1.205)***	(2.628)***
News-Growth-3				3.723
				(4.552)
N	444	444	444	444
R^2	0.16	0.166	0.174	0.174

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 36: Education Panel: Formal Employment with growth heterogeneous effects

	Formal Employment			
	(1)	(2)	(3)	(4)
News	-7.283	-5.524	-6.668	-6.793
	(2.715)***	(2.028)***	(2.396)***	(2.387)***
News-1	-4.623	-7.648	-9.439	-9.524
	(1.638)***	(2.836)***	(3.396)***	(3.380)***
News-2	-3.604	-3.582	0.06	-.072
	(1.395)***	(1.388)***	(0.34)	(0.251)
News-3	-4.141	-4.358	-3.993	-3.552
	(1.592)***	(1.680)***	(1.569)**	(1.755)**
News-Growth	3.595	0.541	2.278	2.428
	(1.483)**	(0.414)	(0.877)***	(0.925)***
News-Growth-1		4.835	7.679	7.822
		(1.994)**	(2.839)***	(2.792)***
News-Growth-2			-6.054	-5.773
			(1.949)***	(1.984)***
News-Growth-3				-.734
				(0.82)
N	464	464	464	464
R^2	0.153	0.157	0.163	0.163

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 37: Education Panel: Formal Average Income with growth heterogeneous effects

	Formal Average Income			
	(1)	(2)	(3)	(4)
News	-18.883	-12.499	-14.372	-14.142
	(5.859)***	(3.997)***	(3.879)***	(3.416)***
News-1	-8.269	-19.244	-22.178	-22.023
	(1.969)***	(5.048)***	(4.805)***	(4.495)***
News-2	-6.711	-6.632	-.667	-.424
	(1.240)***	(1.220)***	(1.891)	(1.497)
News-3	-8.185	-8.972	-8.374	-9.183
	(1.597)***	(1.837)***	(1.897)***	(3.529)***
News-Growth	15.747	4.666	7.510	7.233
	(6.652)**	(3.317)	(3.125)**	(2.593)***
News-Growth-1		17.540	22.198	21.934
		(5.390)***	(4.941)***	(4.445)***
News-Growth-2			-9.914	-10.431
			(1.328)***	(1.147)***
News-Growth-3				1.348
				(2.770)
N	464	464	464	464
R^2	0.12	0.131	0.134	0.134

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 38: Age Panel: Employment with growth heterogeneous effects

	Overall Employment			
	(1)	(2)	(3)	(4)
News	-12.221	-9.104	-10.071	-10.084
	(4.030)***	(2.893)***	(3.283)***	(3.397)***
News-1	-4.826	-10.064	-11.567	-11.574
	(2.065)**	(3.984)**	(4.589)**	(4.652)**
News-2	-3.375	-3.295	-.160	-.175
	(1.411)**	(1.384)**	(0.387)	(0.599)
News-3	-3.325	-3.829	-3.517	-3.469
	(1.720)*	(1.894)**	(1.780)**	(1.283)***
News-Growth	12.344	7.032	8.585	8.601
	(4.083)***	(2.143)***	(2.764)***	(2.892)***
News-Growth-1		8.397	10.942	10.958
		(3.077)***	(4.096)***	(4.223)***
News-Growth-2			-5.469	-5.435
			(2.182)**	(1.954)***
News-Growth-3				-.084
				(1.182)
N	390	390	390	390
R^2	0.069	0.074	0.076	0.076

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 39: Age Panel: Average Income with growth heterogeneous effects

	Average Income			
	(1)	(2)	(3)	(4)
News	-9.778	-4.100	-7.434	-7.138
	(1.854)***	(2.331)*	(1.933)***	(2.008)***
News-1	-8.227	-17.910	-22.370	-22.191
	(0.769)***	(1.535)***	(2.473)***	(2.467)***
News-2	-9.162	-9.168	0.305	0.522
	(1.015)***	(1.018)***	(0.996)	(1.015)
News-3	-11.114	-11.863	-10.809	-11.682
	(1.886)***	(1.955)***	(1.747)***	(1.761)***
News-Growth	3.432	-6.515	-1.777	-2.131
	(1.695)**	(2.678)**	(1.902)	(1.986)
News-Growth-1		15.788	22.642	22.339
		(1.675)***	(3.109)***	(3.079)***
News-Growth-2			-15.182	-15.693
			(3.226)***	(3.276)***
News-Growth-3				1.462
				(0.357)***
N	333	333	333	333
R^2	0.15	0.16	0.168	0.168

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 40: Age Panel: Formal Employment with growth heterogeneous effects

	Formal Employment			
	(1)	(2)	(3)	(4)
News	-8.746	-6.614	-7.679	-7.612
	(3.046)***	(2.306)***	(2.747)***	(2.627)***
News-1	-5.051	-8.633	-10.290	-10.255
	(1.795)***	(3.029)***	(3.712)***	(3.655)***
News-2	-3.926	-3.871	-.417	-.337
	(1.624)**	(1.608)**	(0.313)	(0.322)
News-3	-4.575	-4.919	-4.576	-4.822
	(1.773)***	(1.896)***	(1.757)***	(2.218)**
News-Growth	5.162	1.528	3.240	3.160
	(2.135)**	(0.87)*	(1.576)**	(1.429)**
News-Growth-1		5.744	8.548	8.472
		(2.005)***	(3.163)***	(3.026)***
News-Growth-2			-6.026	-6.197
			(2.482)**	(2.806)**
News-Growth-3				0.424
				(0.842)
N	390	390	390	390
R^2	0.11	0.113	0.117	0.117

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 41: Age Panel: Formal Average Income with growth heterogeneous effects

	Formal Average Income			
	(1)	(2)	(3)	(4)
News	-19.749	-13.039	-14.586	-14.211
	(4.487)***	(3.459)***	(3.517)***	(3.399)***
News-1	-7.698	-18.970	-21.375	-21.181
	(0.844)***	(2.366)***	(2.570)***	(2.562)***
News-2	-5.592	-5.419	-.403	0.038
	(0.471)***	(0.448)***	(0.804)	(0.495)
News-3	-7.135	-8.218	-7.720	-9.085
	(1.503)***	(1.689)***	(1.657)***	(2.177)***
News-Growth	17.566	6.133	8.618	8.174
	(4.588)***	(3.204)*	(3.159)***	(2.929)***
News-Growth-1		18.072	22.143	21.721
		(3.381)***	(3.875)***	(3.961)***
News-Growth-2			-8.748	-9.699
			(1.289)***	(0.93)***
News-Growth-3				2.357
				(1.710)
N	390	390	390	390
R^2	0.082	0.091	0.094	0.094

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 42: Gender Panel: Employment with growth heterogeneous effects

	Overall Employment			
	(1)	(2)	(3)	(4)
News	-18.334	-13.658	-15.108	-15.128
	(2.738)***	(2.505)***	(2.433)***	(2.245)***
News-1	-7.236	-15.092	-17.347	-17.358
	(0.292)***	(0.694)***	(0.576)***	(0.478)***
News-2	-5.063	-4.943	-.241	-.265
	(0.297)***	(0.303)***	(0.056)***	(0.284)
News-3	-4.989	-5.744	-5.277	-5.203
	(0.667)***	(0.63)***	(0.606)***	(0.096)***
News-Growth	18.515	10.546	12.875	12.899
	(2.369)***	(1.966)***	(1.848)***	(1.622)***
News-Growth-1		12.597	16.414	16.437
		(0.644)***	(0.444)***	(0.227)***
News-Growth-2			-8.202	-8.151
			(0.432)***	(0.057)***
News-Growth-3				-.128
				(1.215)
N	260	260	260	260
R^2	0.086	0.092	0.094	0.094

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 43: Gender Panel: Average Income with growth heterogeneous effects

	Average Income			
	(1)	(2)	(3)	(4)
News	-10.820	-5.062	-8.516	-8.206
	(0.923)***	(0.058)***	(0.807)***	(0.381)***
News-1	-8.858	-18.677	-23.297	-23.110
	(1.553)***	(3.234)***	(4.399)***	(4.150)***
News-2	-9.212	-9.219	0.593	0.819
	(1.496)***	(1.501)***	(0.954)	(1.269)
News-3	-12.185	-12.945	-11.854	-12.766
	(2.616)***	(2.752)***	(2.485)***	(3.751)***
News-Growth	4.272	-5.815	-.908	-1.278
	(0.178)***	(1.902)***	(0.676)	(1.190)
News-Growth-1		16.011	23.109	22.793
		(2.735)***	(4.520)***	(4.094)***
News-Growth-2			-15.723	-16.257
			(3.940)***	(4.688)***
News-Growth-3				1.529
				(2.112)
N	222	222	222	222
R^2	0.161	0.171	0.179	0.179

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 44: Gender Panel: Formal Employment with growth heterogeneous effects

	Formal Employment			
	(1)	(2)	(3)	(4)
News	-13.119	-9.907	-11.506	-11.399
	(2.663)***	(1.646)***	(1.485)***	(1.198)***
News-1	-7.619	-13.014	-15.500	-15.444
	(1.265)***	(2.985)***	(2.735)***	(2.591)***
News-2	-5.956	-5.874	-.691	-.566
	(0.946)***	(0.922)***	(1.457)	(1.119)
News-3	-6.915	-7.434	-6.919	-7.307
	(1.080)***	(1.247)***	(1.302)***	(2.359)***
News-Growth	7.704	2.231	4.798	4.672
	(2.666)***	(0.929)**	(0.666)***	(0.325)***
News-Growth-1		8.651	12.857	12.737
		(2.754)***	(2.327)***	(2.005)***
News-Growth-2			-9.039	-9.310
			(0.93)***	(0.198)***
News-Growth-3				0.67
				(1.820)
N	260	260	260	260
R^2	0.144	0.148	0.153	0.153

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 45: Gender Panel: Formal Average Income with growth heterogeneous effects

	Formal Average Income			
	(1)	(2)	(3)	(4)
News	-18.793	-12.831	-14.185	-13.707
	(2.026)***	(2.476)***	(3.063)***	(3.367)***
News-1	-7.485	-17.500	-19.605	-19.358
	(1.257)***	(0.51)***	(1.417)***	(1.573)***
News-2	-5.219	-5.065	-.677	-.115
	(0.871)***	(0.884)***	(1.002)	(0.654)
News-3	-6.646	-7.609	-7.173	-8.910
	(1.320)***	(1.251)***	(1.066)***	(0.014)***
News-Growth	17.712	7.553	9.727	9.162
	(0.69)***	(1.451)***	(2.389)***	(2.746)***
News-Growth-1		16.058	19.620	19.082
		(1.201)***	(0.329)***	(0.665)***
News-Growth-2			-7.655	-8.864
			(3.293)**	(2.546)***
News-Growth-3				2.999
				(1.869)
N	260	260	260	260
R^2	0.086	0.094	0.096	0.097

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Some Control Variables

Table 46: Education Panel: Employment and Average Income with controls

	Employment			Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-1.905	-1.271	-.615	-2.492	-.791	0.223
	(2.001)	(1.819)	(1.732)	(1.339)*	(1.521)	(1.564)
News-1	-2.553	-.952	-.444	-5.219	-2.439	-2.009
	(1.066)**	(0.319)***	(0.135)***	(1.216)***	(0.917)***	(0.914)**
News-2	-3.979	-.946	-.280	-7.906	-2.125	-1.381
	(1.892)**	(0.478)**	(0.324)	(1.045)***	(0.41)***	(0.364)***
News-3	-4.158	-.700	0.006	-12.240	-5.242	-4.268
	(1.707)**	(0.199)***	(0.306)	(3.190)***	(2.423)**	(2.388)*
GDP	3.199	0.654	0.194	6.381	1.594	1.062
	(1.489)**	(0.503)	(0.4)	(0.836)***	(0.307)***	(0.272)***
Univ		3.379	1.270		6.821	4.657
		(1.588)**	(0.82)		(0.769)***	(0.728)***
Popul			44.553			50.274
			(26.670)*			(10.059)***
N	484	484	484	444	444	444
R^2	0.271	0.499	0.529	0.474	0.848	0.859

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 47: Education Panel: Formal Employment and Average Income with controls

	Formal Employment			Formal Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-2.972	-2.018	-1.608	-3.812	-1.602	0.293
	(1.120)***	(0.775)***	(0.64)**	(0.846)***	(0.599)***	(0.781)
News-1	-2.972	-1.560	-1.313	-3.391	-.120	1.026
	(1.043)***	(0.539)***	(0.435)***	(1.037)***	(1.003)	(1.220)
News-2	-3.625	-1.175	-.903	-6.668	-.992	0.265
	(1.400)***	(0.515)**	(0.395)**	(1.189)***	(0.641)	(0.801)
News-3	-4.112	-1.303	-1.028	-8.042	-1.535	-.263
	(1.580)***	(0.597)**	(0.469)**	(1.533)***	(0.482)***	(0.395)
GDP	2.584	0.437	0.23	6.841	1.868	0.912
	(0.911)***	(0.222)**	(0.158)	(1.577)***	(0.657)***	(0.348)***
Univ		2.966	2.077		6.871	2.757
		(1.086)***	(0.765)***		(1.277)***	(0.34)***
Popul			19.621			90.725
			(9.204)**			(32.413)***
N	464	464	464	464	464	464
R^2	0.363	0.662	0.671	0.418	0.756	0.796

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 48: Education Panel: Employment and Average Income with controls and growth heterogeneous effects

	Employment			Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-4.038	-3.690	-1.233	1.423	0.149	3.091
	(1.878)**	(1.736)**	(1.292)	(3.595)	(3.466)	(3.649)
News-1	-7.336	-2.726	-1.125	-13.122	-2.295	1.087
	(2.906)**	(0.912)***	(0.315)***	(1.377)***	(0.37)***	(0.561)*
News-2	-2.291	-1.516	-.075	0.413	-.734	0.724
	(1.765)	(1.510)	(1.193)	(0.188)**	(0.094)***	(0.283)**
News-3	-4.141	-.796	0.433	-13.513	-6.490	-4.284
	(2.453)*	(1.519)	(1.407)	(5.825)**	(5.070)	(4.962)
News-Growth	3.448	4.064	0.922	-7.007	-1.368	-3.824
	(1.246)***	(1.395)***	(1.081)	(3.310)**	(2.730)	(2.861)
News-Growth-1	6.923	2.029	0.985	13.181	-.094	-3.911
	(2.697)**	(0.776)***	(0.584)*	(0.789)***	(1.259)	(1.477)***
News-Growth-2	-2.885	0.953	-.336	-13.570	-2.482	-3.043
	(2.068)	(1.991)	(1.779)	(2.377)***	(1.135)**	(1.185)**
News-Growth-3	-.460	-.361	-.797	2.894	2.270	1.082
	(1.820)	(1.829)	(1.774)	(4.454)	(4.393)	(4.353)
GDP	3.103	0.573	0.198	6.394	1.623	1.020
	(1.466)**	(0.498)	(0.403)	(0.854)***	(0.327)***	(0.272)***
Univ		3.370	1.323		6.803	3.992
		(1.596)**	(0.732)*		(0.767)***	(0.666)***
Popul			43.307			65.130
			(27.554)			(12.490)***
N	484	484	484	444	444	444
R^2	0.281	0.506	0.529	0.485	0.848	0.863

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 49: Education Panel: Formal Employment and Average Income with controls and growth heterogeneous effects

	Formal Employment			Formal Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-3.063	-2.410	-1.024	-4.395	-2.877	2.857
	(1.086)***	(0.852)***	(0.498)**	(1.242)***	(0.972)***	(1.095)***
News-1	-6.996	-2.294	-1.259	-15.417	-4.498	-.217
	(2.502)***	(0.802)***	(0.39)***	(3.044)***	(1.170)***	(0.908)
News-2	-.425	-.894	-.366	-1.347	-2.436	-.248
	(0.362)	(0.522)*	(0.303)	(1.637)	(1.794)	(1.298)
News-3	-3.472	-1.158	-.720	-8.974	-3.599	-1.786
	(1.732)**	(0.983)	(0.842)	(3.488)**	(2.511)	(1.992)
News-Growth	-.176	0.593	-.943	0.429	2.216	-4.143
	(0.428)	(0.411)	(0.622)	(1.097)	(1.422)	(0.729)***
News-Growth-1	6.359	1.048	0.167	18.112	5.777	2.130
	(2.294)***	(0.463)**	(0.338)	(3.644)***	(1.654)***	(1.052)**
News-Growth-2	-5.234	-.470	-.787	-9.024	2.041	0.73
	(1.801)***	(0.065)***	(0.179)***	(1.083)***	(2.350)	(1.970)
News-Growth-3	-.785	-.264	-.328	1.213	2.424	2.160
	(0.819)	(0.877)	(0.872)	(2.743)	(2.970)	(2.895)
GDP	2.564	0.429	0.23	6.701	1.742	0.919
	(0.905)***	(0.22)*	(0.156)	(1.514)***	(0.58)***	(0.347)***
Univ		2.959	1.960		6.872	2.737
		(1.091)***	(0.751)***		(1.303)***	(0.228)***
Popul			22.008			91.072
			(10.063)**			(28.474)***
N	464	464	464	464	464	464
R^2	0.37	0.662	0.672	0.432	0.763	0.796

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 50: Age Panel: Employment and Average Income with controls

	Employment			Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-1.559	-1.071	-.725	-1.717	0.062	1.225
	(0.552)***	(0.399)***	(0.402)*	(1.253)	(1.440)	(1.619)
News-1	-1.838	-.463	-.450	-4.621	-1.713	-1.221
	(1.097)*	(0.634)	(0.67)	(0.419)***	(0.404)***	(0.524)**
News-2	-3.706	-.357	-.262	-9.455	-3.409	-2.555
	(1.511)**	(0.479)	(0.467)	(1.076)***	(0.337)***	(0.211)***
News-3	-3.627	0.161	0.159	-11.183	-3.865	-2.748
	(1.806)**	(0.729)	(0.692)	(1.888)***	(0.847)***	(0.731)***
GDP	4.873	0.844	0.31	6.946	1.940	1.329
	(1.609)***	(0.248)***	(0.066)***	(0.993)***	(0.272)***	(0.166)***
Univ		4.865	2.043		7.134	4.649
		(1.702)***	(1.172)*		(1.032)***	(0.511)***
Popul			161.316			173.103
			(83.903)*			(24.113)***
N	390	390	390	333	333	333
R^2	0.354	0.708	0.812	0.501	0.887	0.932

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 51: Age Panel: Formal Employment and Average Income with controls

	Formal Employment			Formal Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-2.929	-2.535	-2.471	-3.138	-2.374	-1.895
	(0.655)***	(0.501)***	(0.48)***	(0.784)***	(0.665)***	(0.325)***
News-1	-3.034	-1.923	-1.921	-2.634	-.481	-.464
	(1.010)***	(0.614)***	(0.626)***	(0.872)***	(1.117)	(1.285)
News-2	-4.248	-1.544	-1.527	-6.257	-1.018	-.886
	(1.754)**	(0.695)**	(0.702)**	(0.562)***	(0.304)***	(0.506)*
News-3	-4.905	-1.847	-1.847	-7.779	-1.854	-1.857
	(1.908)**	(0.705)***	(0.74)**	(1.588)***	(0.63)***	(0.529)***
GDP	3.847	0.594	0.495	8.850	2.547	1.804
	(1.582)**	(0.339)*	(0.175)***	(1.562)***	(0.557)***	(0.215)***
Univ		3.928	3.403		7.611	3.690
		(1.553)**	(1.460)**		(1.237)***	(0.937)***
Popul			29.981			224.126
			(81.415)			(52.717)***
N	390	390	390	390	390	390
R^2	0.382	0.717	0.722	0.473	0.822	0.904

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 52: Age Panel: Employment and Average Income with controls and growth heterogeneous effects

	Employment			Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-3.821	-3.833	-1.487	2.408	1.078	3.848
	(1.388)***	(1.393)***	(1.366)	(2.739)	(2.621)	(3.062)
News-1	-7.884	-2.225	-1.280	-15.069	-3.773	-.588
	(3.451)**	(1.491)	(1.386)	(1.428)***	(0.285)***	(0.976)
News-2	-.761	-1.179	-.109	-.954	-2.151	-.778
	(0.674)	(0.77)	(0.966)	(0.805)	(0.644)***	(0.848)
News-3	-3.439	0.007	0.644	-11.155	-3.828	-1.751
	(1.275)***	(0.099)	(0.187)***	(1.687)***	(0.632)***	(0.256)***
News-Growth	3.792	4.805	1.227	-7.758	-1.874	-4.187
	(1.331)***	(1.683)***	(1.666)	(2.510)***	(2.031)	(2.264)*
News-Growth-1	9.050	1.953	1.208	17.255	3.405	-.189
	(3.603)**	(1.132)*	(1.021)	(2.382)***	(1.070)***	(1.265)
News-Growth-2	-5.106	1.365	-.221	-13.608	-2.039	-2.568
	(1.848)***	(0.582)**	(1.042)	(2.984)***	(1.488)	(1.461)*
News-Growth-3	-.658	-.320	-.912	0.562	-.089	-1.208
	(1.284)	(1.211)	(1.128)	(0.36)	(0.396)	(0.611)**
GDP	4.778	0.749	0.3	6.943	1.965	1.398
	(1.585)***	(0.227)***	(0.07)***	(1.017)***	(0.306)***	(0.177)***
Univ		4.869	2.063		7.098	4.452
		(1.710)***	(1.228)*		(1.024)***	(0.353)***
Popul			159.883			183.958
			(86.437)*			(17.376)***
N	390	390	390	333	333	333
R^2	0.364	0.714	0.813	0.514	0.888	0.935

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 53: Age Panel: Formal Employment and Average Income with controls and growth heterogeneous effects

	Formal Employment			Formal Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-2.586	-2.595	-2.148	-2.763	-2.780	0.498
	(0.577)***	(0.581)***	(1.129)*	(1.495)*	(1.500)*	(0.652)
News-1	-7.294	-2.736	-2.556	-14.436	-5.605	-4.284
	(2.454)***	(0.678)***	(0.765)***	(1.413)***	(0.63)***	(1.117)***
News-2	-.808	-1.144	-.940	-1.033	-1.684	-.189
	(0.379)**	(0.474)**	(0.777)	(0.515)**	(0.568)***	(0.715)
News-3	-4.798	-2.022	-1.901	-9.031	-3.653	-2.763
	(2.211)**	(1.127)*	(0.974)*	(2.171)***	(1.405)***	(1.247)**
News-Growth	-.699	0.116	-.565	-.617	0.964	-4.038
	(0.189)***	(0.2)	(1.796)	(1.808)	(1.986)	(1.563)***
News-Growth-1	6.941	1.226	1.084	18.233	7.161	6.119
	(2.397)***	(0.185)***	(0.149)***	(3.452)***	(2.463)***	(2.135)***
News-Growth-2	-5.932	-.721	-1.023	-9.097	0.999	-1.217
	(2.701)**	(0.693)	(1.435)	(0.839)***	(1.129)	(0.524)**
News-Growth-3	-.037	0.235	0.123	1.308	1.835	1.008
	(0.665)	(0.762)	(0.545)	(1.680)	(1.706)	(1.614)
GDP	3.834	0.589	0.504	8.734	2.447	1.819
	(1.585)**	(0.34)*	(0.185)***	(1.532)***	(0.528)***	(0.235)***
Univ		3.921	3.386		7.597	3.674
		(1.559)**	(1.487)**		(1.248)***	(0.954)***
Popul			30.470			223.514
			(84.858)			(54.150)***
N	390	390	390	390	390	390
R^2	0.387	0.717	0.722	0.483	0.827	0.905

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 54: Gender Panel: Employment and Average Income with controls

	Employment			Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-2.342	-1.609	-1.117	-2.079	-.235	1.086
	(0.956)**	(0.941)*	(0.801)	(0.033)***	(0.357)	(0.43)**
News-1	-2.754	-.690	-.769	-5.096	-2.082	-1.569
	(0.133)***	(0.181)***	(0.277)***	(1.005)***	(0.369)***	(0.293)***
News-2	-5.560	-.536	-.497	-9.505	-3.238	-2.313
	(0.269)***	(0.387)	(0.519)	(1.554)***	(0.231)***	(0.132)***
News-3	-5.441	0.241	0.047	-12.261	-4.675	-3.476
	(0.649)***	(0.783)	(0.964)	(2.623)***	(1.023)***	(0.885)***
GDP	7.310	1.266	0.364	7.135	1.946	1.237
	(0.584)***	(0.444)***	(0.355)	(1.169)***	(0.072)***	(0.05)***
Univ		7.298	2.448		7.395	4.478
		(0.171)***	(0.21)***		(1.566)***	(1.515)***
Popul			189.848			139.797
			(11.865)***			(0.277)***
N	260	260	260	222	222	222
R^2	0.442	0.882	0.947	0.513	0.907	0.925

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 55: Gender Panel: Formal Employment and Average Income with controls

	Formal Employment			Formal Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-4.424	-3.833	-3.701	-2.470	-1.728	-1.322
	(0.444)***	(0.373)***	(0.285)***	(0.788)***	(0.689)**	(0.564)**
News-1	-4.601	-2.935	-2.956	-2.619	-.527	-.592
	(0.667)***	(0.465)***	(0.448)***	(0.727)***	(0.444)	(0.367)
News-2	-6.439	-2.386	-2.375	-5.832	-.741	-.709
	(1.006)***	(0.514)***	(0.476)***	(0.976)***	(0.286)***	(0.178)***
News-3	-7.410	-2.826	-2.877	-7.232	-1.474	-1.634
	(1.132)***	(0.575)***	(0.548)***	(1.434)***	(0.653)**	(0.511)***
GDP	5.760	0.883	0.643	8.357	2.231	1.489
	(0.941)***	(0.348)**	(0.231)***	(1.128)***	(0.297)***	(0.207)***
Univ		5.889	4.595		7.397	3.401
		(0.719)***	(0.115)***		(1.006)***	(0.601)***
Popul			50.624			156.376
			(22.853)**			(13.384)***
N	260	260	260	260	260	260
R^2	0.494	0.927	0.934	0.494	0.882	0.92

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 56: Gender Panel: Employment and Average Income with controls and growth heterogeneous effects

	Employment			Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-5.734	-5.751	-1.721	1.589	0.209	3.967
	(1.508)***	(1.511)***	(1.234)	(1.247)	(0.957)	(1.053)***
News-1	-11.823	-3.333	-1.804	-15.803	-4.083	0.228
	(0.042)***	(0.164)***	(0.366)***	(2.945)***	(0.457)***	(0.342)
News-2	-1.143	-1.770	-.002	-.695	-1.937	-.157
	(0.215)***	(0.201)***	(0.4)	(1.021)	(0.759)**	(0.894)
News-3	-5.159	0.011	1.003	-12.226	-4.624	-1.842
	(0.093)***	(0.032)	(0.208)***	(3.670)***	(2.060)**	(1.956)
News-Growth	5.686	7.205	0.874	-7.052	-.947	-4.173
	(1.056)***	(1.095)***	(0.846)	(2.153)***	(0.858)	(0.85)***
News-Growth-1	13.575	2.930	1.684	17.576	3.207	-1.752
	(0.002)***	(0.257)***	(0.376)***	(3.236)***	(0.184)***	(0.15)***
News-Growth-2	-7.657	2.050	-.754	-14.118	-2.116	-2.832
	(0.019)***	(0.217)***	(0.1)***	(4.343)***	(1.798)	(1.825)
News-Growth-3	-.989	-.482	-1.624	0.605	-.070	-1.741
	(1.150)	(1.164)	(1.217)	(1.963)	(1.824)	(1.944)
GDP	7.167	1.123	0.368	7.124	1.960	1.202
	(0.565)***	(0.42)***	(0.35)	(1.185)***	(0.088)***	(0.056)***
Univ		7.303	2.457		7.364	3.767
		(0.177)***	(0.131)***		(1.568)***	(1.492)**
Popul			189.049			171.981
			(8.994)***			(0.242)***
N	260	260	260	222	222	222
R^2	0.454	0.89	0.947	0.525	0.908	0.93

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Table 57: Gender Panel: Formal Employment and Average Income with controls and growth heterogeneous effects

	Formal Employment			Formal Average Income		
	(1)	(2)	(3)	(4)	(5)	(6)
News	-3.874	-3.887	-2.722	-2.914	-2.931	0.363
	(0.01)***	(0.008)***	(0.472)***	(1.864)	(1.870)	(1.408)
News-1	-11.011	-4.177	-3.735	-12.999	-4.404	-3.154
	(1.884)***	(1.037)***	(0.836)***	(0.687)***	(0.487)***	(0.742)***
News-2	-1.270	-1.774	-1.263	-1.125	-1.759	-.314
	(1.234)	(1.299)	(1.077)	(0.514)**	(0.428)***	(0.695)
News-3	-7.272	-3.111	-2.824	-8.859	-3.625	-2.814
	(2.358)***	(1.845)*	(1.703)*	(0.021)***	(0.737)***	(0.94)***
News-Growth	-1.107	0.116	-1.713	0.874	2.412	-2.762
	(0.604)*	(0.453)	(1.128)	(1.592)	(1.805)	(1.231)**
News-Growth-1	10.445	1.877	1.517	15.795	5.018	3.999
	(1.641)***	(0.578)***	(0.427)***	(0.206)***	(1.266)***	(1.439)***
News-Growth-2	-8.914	-1.102	-1.912	-8.297	1.530	-.761
	(0.262)***	(1.234)	(0.936)**	(2.471)***	(1.133)	(1.396)
News-Growth-3	-.020	0.388	0.058	2.010	2.523	1.590
	(1.713)	(1.767)	(1.677)	(2.011)	(1.945)	(1.976)
GDP	5.741	0.877	0.659	8.234	2.115	1.498
	(0.923)***	(0.32)***	(0.228)***	(1.152)***	(0.318)***	(0.217)***
Univ		5.878	4.478		7.394	3.433
		(0.731)***	(0.183)***		(1.011)***	(0.476)***
Popul			54.639			154.512
			(20.570)***			(18.454)***
N	260	260	260	260	260	260
R^2	0.501	0.927	0.934	0.504	0.888	0.921

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_Growth is the interaction between our growth dummy and the contemporaneous value of the News variable. Similarly, News_Growth 1, 2 and 3 represents the interaction between our growth dummy and the first, second and third lag of the News variable; respectively.

Heterogeneous demographic effects

Table 58: Education Panel: Employment - Fixed Effects

	Overall Employment		Formal Employment	
	(1)	(2)	(3)	(4)
News	11.159	6.994	8.156	4.740
	(3.958)***	(2.489)***	(3.081)***	(1.846)**
News-sec	-22.721	-16.099	-17.191	-11.440
	(2.34e-13)***	(2.03e-13)***	(1.80e-13)***	(2.39e-13)***
News-nus	-10.947	-6.641	-9.594	-6.091
	(2.33e-13)***	(2.03e-13)***	(1.72e-13)***	(2.27e-13)***
News-su	-13.428	-7.696	-12.271	-7.862
	(2.31e-13)***	(2.02e-13)***	(1.72e-13)***	(2.28e-13)***
News-1	-.444	8.246	-1.313	5.714
	(0.136)***	(3.059)***	(0.436)***	(2.136)***
News-sec-1		-13.817		-11.830
		(6.89e-14)***		(7.13e-14)***
News-nus-1		-8.985		-7.207
		(6.10e-14)***		(6.46e-14)***
News-su-1		-11.959		-9.069
		(6.48e-14)***		(6.24e-14)***
News-2	-.280	-.280	-.903	-.903
	(0.325)	(0.326)	(0.397)**	(0.398)**
News-3	0.006	0.006	-1.028	-1.028
	(0.307)	(0.308)	(0.471)**	(0.472)**
GDP	0.194	0.194	0.23	0.23
	(0.402)	(0.403)	(0.158)	(0.159)
Univ	1.270	1.270	2.077	2.077
	(0.823)	(0.826)	(0.767)***	(0.77)***
Popul	44.553	44.553	19.621	19.621
	(26.754)*	(26.839)*	(9.234)**	(9.265)**
N	484	484	464	464
R^2	0.562	0.573	0.706	0.719

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_sec, News_nus, News_su are the interaction between our dummy variable that indicates the employees level of education and the contemporaneous value of the News variable. The suffix sec, su, su indicates that the maximum level of education achieved by the respondant is secondary, non superior university, superior university, respectively. Similarly, News_sec, News_nus, News_su 1, represents this same interaction using the first lag of the News variable.

Table 59: Education Panel: Average Income - Fixed Effects

	Overall Income		Formal Income	
	(1)	(2)	(3)	(4)
News	4.045	1.636	7.007	4.669
	(3.285)	(1.864)	(3.922)*	(2.888)
News-sec	-3.294	-1.578	-6.350	-3.531
	(1.04e-13)***	(3.45e-14)***	(3.84e-13)***	(4.85e-13)***
News-nus	-3.505	-2.140	-3.647	-2.398
	(1.01e-13)***	(3.08e-14)***	(3.80e-13)***	(4.78e-13)***
News-su	-8.490	-1.937	-16.858	-11.577
	(1.04e-13)***	(2.95e-14)***	(3.72e-13)***	(4.72e-13)***
News-1	-2.009	2.881	1.026	5.833
	(0.918)**	(2.093)	(1.224)	(2.715)**
News-sec-1		-3.484		-5.799
		(3.18e-14)***		(1.70e-13)***
News-nus-1		-2.771		-2.569
		(2.90e-14)***		(1.71e-13)***
News-su-1		-13.305		-10.863
		(3.25e-14)***		(1.70e-13)***
News-2	-1.381	-1.381	0.265	0.265
	(0.366)***	(0.367)***	(0.804)	(0.807)
News-3	-4.268	-4.268	-.263	-.263
	(2.396)*	(2.404)*	(0.397)	(0.398)
GDP	1.062	1.062	0.912	0.912
	(0.273)***	(0.274)***	(0.349)***	(0.35)***
Univ	4.657	4.657	2.757	2.757
	(0.73)***	(0.733)***	(0.341)***	(0.342)***
Popul	50.274	50.274	90.725	90.725
	(10.094)***	(10.129)***	(32.520)***	(32.628)***
N	444	444	464	464
R^2	0.861	0.865	0.803	0.805

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_sec, News_nus, News_su are the interaction between our dummy variable that indicates the employees level of education and the contemporaneous value of the News variable. The suffix sec, su, su indicates that the maximum level of education achieved by the respondant is secondary, non superior university, superior university, respectively. Similarly, News_sec, News_nus, News_su 1, represents this same interaction using the first lag of the News variable.

Table 60: Education Panel: Employment - Pool

	Overall Employment		Formal Employment	
	(1)	(2)	(3)	(4)
News	-109.813	-66.318	-41.633	-26.114
	(15.804)***	(15.270)***	(5.728)***	(6.335)***
News-sec	333.620	198.057	75.644	45.947
	(26.601)***	(30.469)***	(6.465)***	(7.977)***
News-nus	40.860	25.309	33.084	20.491
	(13.913)***	(16.525)	(4.995)***	(6.207)***
News-su	63.271	39.448	51.372	31.588
	(12.724)***	(15.198)***	(5.104)***	(6.339)***
News-1	-.362	-65.236	-1.313	-24.369
	(8.786)	(14.770)***	(2.106)	(5.996)***
News-sec-1		200.834		44.123
		(29.941)***		(7.640)***
News-nus-1		23.038		18.710
		(15.971)		(5.944)***
News-su-1		35.294		29.394
		(14.658)**		(6.101)***
News-2	-.258	-.280	-.903	-.903
	(11.259)	(8.550)	(2.876)	(2.255)
News-3	0.006	0.006	-1.028	-1.028
	(10.124)	(8.501)	(2.508)	(2.313)
GDP	0.22	0.194	0.23	0.23
	(2.372)	(2.407)	(0.638)	(0.643)
Univ		1.270	2.077	2.077
		(3.315)	(0.975)**	(0.941)**
Popul	64.784	44.553	19.621	19.621
	(30.607)**	(55.139)	(15.564)	(14.929)
N	484	484	464	464
R^2	0.353	0.421	0.365	0.407

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_sec, News_nus, News_su are the interaction between our dummy variable that indicates the employees level of education and the contemporaneous value of the News variable. The suffix sec, su, su indicates that the maximum level of education achieved by the respondant is secondary, non superior university, superior university, respectively. Similarly, News_sec, News_nus, News_su 1, represents this same interaction using the first lag of the News variable.

Table 61: Education Panel: Average Income - Pool

	Overall Income		Formal Income	
	(1)	(2)	(3)	(4)
News	-92.501	-57.915	-91.330	-55.247
	(13.391)***	(12.695)***	(12.602)***	(12.396)***
News-sec	28.450	18.205	38.733	24.344
	(12.291)**	(14.220)	(11.335)***	(13.206)*
News-nus	78.602	48.356	93.396	56.484
	(10.306)***	(12.011)***	(10.135)***	(11.887)***
News-su	263.841	165.989	234.363	141.331
	(21.126)***	(24.905)***	(17.961)***	(21.026)***
News-1	-2.009	-53.716	1.026	-52.585
	(7.181)	(12.331)***	(5.887)	(12.326)***
News-sec-1		15.317		21.379
		(13.768)		(13.067)
News-nus-1		45.219		54.841
		(11.619)***		(11.766)***
News-su-1		146.289		138.222
		(25.507)***		(20.777)***
News-2	-1.381	-1.381	0.265	0.265
	(9.084)	(6.930)	(8.070)	(6.083)
News-3	-4.268	-4.268	-.263	-.263
	(8.277)	(6.994)	(7.226)	(6.279)
GDP	1.062	1.062	0.912	0.912
	(1.705)	(1.723)	(1.444)	(1.451)
Univ	4.657	4.657	2.757	2.757
	(3.069)	(2.939)	(2.565)	(2.442)
Popul	50.274	50.274	90.725	90.725
	(57.603)	(54.532)	(42.594)**	(40.014)**
N	444	444	464	464
R^2	0.392	0.445	0.4	0.456

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_sec, News_nus, News_su are the interaction between our dummy variable that indicates the employees level of education and the contemporaneous value of the News variable. The suffix sec, su, su indicates that the maximum level of education achieved by the respondant is secondary, non superior university, superior university, respectively. Similarly, News_sec, News_nus, News_su 1, represents this same interaction using the first lag of the News variable.

Table 62: Age Panel: Employment - Fixed Effects

	Overall Employment		Formal Employment	
	(1)	(2)	(3)	(4)
News	2.556	1.092	0.767	-.633
	(2.235)	(1.179)	(2.872)	(1.603)
News-adul	-9.164	-5.479	-10.783	-6.634
	(1.659)***	(1.129)***	(1.587)***	(1.074)***
News-old	-.683	0.02	1.074	1.124
	(3.305)	(2.199)	(3.162)	(2.092)
News-1	-.450	2.540	-1.921	0.924
	(0.672)	(1.478)*	(0.627)***	(1.962)
News-adul-1		-7.510		-8.436
		(1.076)***		(1.024)***
News-old-1		-1.461		-.098
		(2.246)		(2.138)
News-2	-.262	-.263	-1.526	-1.526
	(0.468)	(0.468)	(0.704)**	(0.706)**
News-3	0.159	0.159	-1.847	-1.847
	(0.694)	(0.696)	(0.743)**	(0.745)**
GDP	0.311	0.312	0.493	0.493
	(0.061)***	(0.059)***	(0.173)***	(0.171)***
Univ	2.050	2.057	3.393	3.392
	(1.145)*	(1.135)*	(1.426)**	(1.414)**
Popul	160.905	160.513	30.590	30.632
	(83.542)*	(83.504)*	(79.935)	(79.462)
N	390	390	390	390
R^2	0.818	0.821	0.737	0.743

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_adul, News_old, are the interaction between our dummy variable that indicates the age group which the respondent belongs to and the contemporaneous value of the News variable. The suffix adul and old, indicates that the respondent's age lies between 25-45 and 45-65 years old; respectively. Similarly, News_adul and News_old 1, represents this same interaction using the first lag of the News variable.

Table 63: Age Panel: Average Income - Fixed Effects

	Overall Income		Formal Income	
	(1)	(2)	(3)	(4)
News	-.607	-.667	-2.079	-1.593
	(1.062)	(0.659)	(1.263)*	(0.449)***
News-adul	-.685	0.182	0.615	0.746
	(0.717)	(0.491)	(1.070)	(0.742)
News-old	6.324	5.655	-.064	-1.644
	(1.284)***	(0.861)***	(2.133)	(1.445)
News-1	-1.201	-1.111	-.464	-1.488
	(0.536)**	(0.752)	(1.288)	(0.68)**
News-adul-1		-1.710		-.224
		(0.454)***		(0.707)
News-old-1		1.450		3.296
		(0.849)*		(1.476)**
News-2	-2.520	-2.516	-.886	-.885
	(0.196)***	(0.194)***	(0.508)*	(0.511)*
News-3	-2.702	-2.696	-1.857	-1.857
	(0.734)***	(0.736)***	(0.531)***	(0.532)***
GDP	1.304	1.301	1.804	1.801
	(0.16)***	(0.159)***	(0.212)***	(0.209)***
Univ	4.547	4.535	3.691	3.673
	(0.505)***	(0.506)***	(0.956)***	(0.977)***
Popul	180.212	181.060	224.090	225.122
	(24.442)***	(24.351)***	(53.912)***	(54.873)***
N	333	333	390	390
R^2	0.933	0.934	0.904	0.904

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_adul, News_old, are the interaction between our dummy variable that indicates the age group which the respondent belongs to and the contemporaneous value of the News variable. The suffix adul and old, indicates that the respondent's age lies between 25-45 and 45-65 years old; respectively. Similarly, News_adul and News_old 1, represents this same interaction using the first lag of the News variable.

Table 64: Age Panel: Employment - Pool

	Overall Employment		Formal Employment	
	(1)	(2)	(3)	(4)
News	-27.383	-17.085	-29.835	-19.254
	(4.499)***	(4.213)***	(4.227)***	(3.758)***
News-adul	31.574	20.006	26.394	16.247
	(4.840)***	(5.097)***	(4.515)***	(4.646)***
News-old	50.527	31.208	56.618	35.038
	(5.333)***	(6.831)***	(4.733)***	(5.616)***
News-1	-.424	-15.696	-1.909	-17.263
	(3.025)	(4.620)***	(2.516)	(3.855)***
News-adul-1		16.861		13.454
		(5.304)***		(4.712)***
News-old-1		28.953		32.606
		(7.052)***		(5.792)***
News-2	-.066	-.066	-1.442	-1.441
	(2.703)	(2.759)	(2.414)	(2.299)
News-3	0.154	0.154	-1.849	-1.849
	(2.865)	(2.531)	(2.519)	(2.119)
GDP	-.790	-.792	0.02	0.011
	(0.459)*	(0.47)*	(0.46)	(0.465)
Univ	-3.760	-3.771	0.896	0.852
	(0.381)***	(0.385)***	(0.353)**	(0.35)**
Popul	493.029	493.652	173.283	175.798
	(6.877)***	(7.214)***	(6.053)***	(6.243)***
N	390	390	390	390
R^2	0.963	0.964	0.828	0.842

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_adul, News_old, are the interaction between our dummy variable that indicates the age group which the respondent belongs to and the contemporaneous value of the News variable. The suffix adul and old, indicates that the respondent's age lies between 25-45 and 45-65 years old; respectively. Similarly, News_adul and News_old 1, represents this same interaction using the first lag of the News variable.

Table 65: Age Panel: Average Income - Pool

	Overall Income		Formal Income	
	(1)	(2)	(3)	(4)
News	-58.544	-36.110	-62.212	-38.038
	(8.812)***	(8.083)***	(8.573)***	(7.870)***
News-adul	58.023	35.263	63.978	38.478
	(8.218)***	(8.112)***	(8.101)***	(8.047)***
News-old	119.148	74.677	116.031	69.030
	(9.577)***	(11.239)***	(8.622)***	(10.017)***
News-1	-1.522	-34.379	-.475	-36.002
	(3.960)	(7.833)***	(3.966)	(8.014)***
News-adul-1		31.689		35.893
		(7.874)***		(8.009)***
News-old-1		66.910		70.687
		(10.566)***		(10.001)***
News-2	-3.078	-3.061	-.972	-.970
	(5.081)	(3.871)	(4.962)	(3.909)
News-3	-3.432	-3.409	-1.855	-1.855
	(4.524)	(3.923)	(4.278)	(3.806)
GDP	1.703	1.691	2.291	2.280
	(0.872)*	(0.879)*	(0.913)**	(0.909)**
Univ	6.171	6.120	6.259	6.202
	(0.811)***	(0.769)***	(0.741)***	(0.709)***
Popul	67.103	70.594	77.303	80.551
	(10.228)***	(10.434)***	(9.152)***	(9.393)***
N	333	333	390	390
R^2	0.559	0.599	0.573	0.612

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_adul, News_old, are the interaction between our dummy variable that indicates the age group which the respondent belongs to and the contemporaneous value of the News variable. The suffix adul and old, indicates that the respondent's age lies between 25-45 and 45-65 years old; respectively. Similarly, News_adul and News_old 1, represents this same interaction using the first lag of the News variable.

Table 66: Gender Panel: Employment - Fixed Effects

	Overall Employment		Formal Employment	
	(1)	(2)	(3)	(4)
News	-.443	-.175	-1.479	-2.294
	(0.143)***	(0.139)	(1.924)	(1.116)**
News-male	-1.349	-1.884	-4.448	-2.818
	(0.052)***	(0.033)***	(0.099)***	(0.063)***
News-1	-.769	-1.314	-2.956	-1.297
	(0.278)***	(0.295)***	(0.45)***	(1.201)
News-male-1		1.089		-3.317
		(0.038)***		(0.074)***
News-2	-.497	-.497	-2.375	-2.375
	(0.52)	(0.521)	(0.477)***	(0.478)***
News-3	0.047	0.047	-2.877	-2.877
	(0.966)	(0.968)	(0.55)***	(0.551)***
GDP	0.365	0.365	0.645	0.647
	(0.356)	(0.357)	(0.232)***	(0.232)***
Univ	2.452	2.450	4.609	4.615
	(0.211)***	(0.211)***	(0.115)***	(0.115)***
Popul	189.689	189.761	50.099	49.878
	(11.897)***	(11.922)***	(22.917)**	(22.970)**
N	260	260	260	260
R^2	0.947	0.947	0.935	0.936

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_male is the interaction between our dummy variable that indicates if the respondent is a male and the contemporaneous value of the News variable. Similarly, News_male 1 represents this same interaction using the first lag of the News variable.

Table 67: Gender Panel: Average Income - Fixed Effects

	Overall Income		Formal Income	
	(1)	(2)	(3)	(4)
News	4.031	2.718	1.289	0.456
	(3.444)	(2.118)	(2.059)	(1.227)
News-male	-5.916	-3.304	-5.225	-3.560
	(0.001)***	(0.0006)***	(0.058)***	(0.037)***
News-1	-1.574	1.078	-.592	1.102
	(0.294)***	(2.416)	(0.368)	(1.334)
News-male-1		-5.310		-3.388
		(0.0007)***		(0.043)***
News-2	-2.323	-2.328	-.709	-.709
	(0.133)***	(0.133)***	(0.179)***	(0.179)***
News-3	-3.488	-3.495	-1.634	-1.633
	(0.888)***	(0.89)***	(0.512)***	(0.514)***
GDP	1.245	1.248	1.492	1.493
	(0.05)***	(0.05)***	(0.208)***	(0.208)***
Univ	4.509	4.524	3.417	3.423
	(1.519)***	(1.522)***	(0.603)***	(0.604)***
Popul	138.328	137.590	155.760	155.534
	(0.227)***	(0.202)***	(13.426)***	(13.458)***
N	222	222	260	260
R^2	0.927	0.928	0.921	0.922

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_male is the interaction between our dummy variable that indicates if the respondent is a male and the contemporaneous value of the News variable. Similarly, News_male 1 represents this same interaction using the first lag of the News variable.

Table 68: Gender Panel: Employment - Pool

	Overall Employment		Formal Employment	
	(1)	(2)	(3)	(4)
News	-52.405	-31.748	-16.389	-11.459
	(7.730)***	(6.561)***	(2.338)***	(2.167)***
News-male	102.718	61.427	25.812	15.957
	(7.636)***	(8.746)***	(2.599)***	(3.337)***
News-1	-1.044	-31.888	-3.359	-10.721
	(4.933)	(6.620)***	(1.825)*	(2.214)***
News-male-1		61.716		14.729
		(8.596)***		(3.187)***
News-2	-1.092	-1.054	-3.197	-3.187
	(5.968)	(4.624)	(2.242)	(1.954)
News-3	-.703	-.663	-3.971	-3.962
	(5.654)	(4.702)	(1.973)**	(1.896)**
GDP	0.804	0.748	1.038	1.025
	(1.078)	(1.095)	(0.462)**	(0.468)**
Popul	251.140	253.274	182.267	182.776
	(28.823)***	(28.054)***	(11.387)***	(11.350)***
N	260	260	260	260
R^2	0.52	0.569	0.746	0.757

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_male is the interaction between our dummy variable that indicates if the respondent is a male and the contemporaneous value of the News variable. Similarly, News_male 1 represents this same interaction using the first lag of the News variable.

Table 69: Gender Panel: Average Income - Pool

	Overall Income		Formal Income	
	(1)	(2)	(3)	(4)
News	-36.094	-21.596	-44.586	-27.625
	(6.071)***	(5.036)***	(7.005)***	(6.135)***
News-male	76.633	47.710	86.777	52.873
	(6.565)***	(7.968)***	(6.743)***	(7.974)***
News-1	-1.522	-23.129	-.939	-26.264
	(4.267)	(5.190)***	(4.446)	(6.420)***
News-male-1		43.274		50.675
		(7.638)***		(8.024)***
News-2	-2.373	-2.313	-1.443	-1.412
	(5.453)	(4.319)	(5.361)	(4.299)
News-3	-3.460	-3.386	-2.577	-2.544
	(4.999)	(4.458)	(4.920)	(4.266)
GDP	1.349	1.301	1.965	1.919
	(1.042)	(1.047)	(0.986)**	(0.987)*
Popul	293.549	296.008	246.746	248.498
	(33.903)***	(32.185)***	(25.391)***	(24.582)***
N	222	222	260	260
R^2	0.561	0.594	0.552	0.59

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables News_male is the interaction between our dummy variable that indicates if the respondent is a male and the contemporaneous value of the News variable. Similarly, News_male 1 represents this same interaction using the first lag of the News variable.

Electoral Cycle

Table 70: Educ Panel: Electoral Cycle - Pool

	Overall-Employment	Overall-Income	Formal-Employment	Formal-Income
	(1)	(2)	(3)	(4)
News	-.787	-.075	-2.151	1.684
	(1.666)	(1.973)	(0.761)*	(1.499)
News-1	-.443	-2.412	-1.807	2.349
	(0.382)	(0.69)**	(0.455)**	(1.971)
News-2	-.218	-1.851	-1.335	1.125
	(0.279)	(0.351)**	(0.49)*	(1.368)
News-3	-.473	-5.236	-1.780	-.453
	(0.177)*	(2.595)	(0.715)*	(0.59)
elec	-15.432	-43.903	-27.715	-4.840
	(7.857)	(5.242)***	(8.818)*	(11.222)
GDP	0.214	1.166	0.354	0.598
	(0.443)	(0.235)**	(0.14)*	(0.201)*
Univ	1.239	4.745	2.167	2.173
	(0.84)	(0.695)***	(0.778)*	(0.559)**
Popul	45.528	48.604	16.825	108.000
	(30.443)	(10.686)**	(10.034)	(42.183)*
m-2	-3.584	-4.376	-1.401	-.604
	(6.975)	(4.249)	(1.951)	(1.940)
m-3	2.218	4.425	3.652	5.595
	(5.444)	(2.392)	(2.766)	(2.275)*
m-4	-.022	14.600	3.733	11.730
	(4.728)	(9.606)	(3.463)	(7.352)
m-5	0.465	17.115	5.752	15.383
	(7.581)	(10.011)	(5.511)	(10.925)
m-6	-1.621	2.788	-4.621	24.777
	(8.237)	(9.673)	(3.637)	(14.329)
m-7	3.159	1.594	-4.177	32.968
	(10.023)	(6.224)	(3.313)	(19.126)
m-8	5.876	4.104	-3.428	48.938
	(12.665)	(8.880)	(3.003)	(26.396)
m-9	-.217	9.285	-6.897	49.646
	(14.168)	(8.403)	(2.901)*	(26.770)
m-10	4.201	14.835	-4.510	47.558
	(15.405)	(10.839)	(3.845)	(24.251)
m-11	-6.651	2.262	-13.592	11.400
	(5.263)	(12.261)	(3.801)**	(10.533)
m-12	0.426	4.011	-3.775	8.421
	(4.555)	(8.176)	(2.365)	(6.572)
Obs	484	444	464	464
R^2	0.013	0.078	0.143	0.103

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables with the prefix m denotes the month dummies. For example, m-2 takes the value of one if the observation correspond to February, m-3 to March, m-4 to April and so on.

Table 71: Age Panel: Electoral Cycle - Pool

	Overall-Employment	Overall-Income	Formal-Employment	Formal-Income
	(1)	(2)	(3)	(4)
News	-1.003	0.948	-3.111	-1.540
	(0.34)*	(1.715)	(0.825)*	(0.133)***
News-1	-.488	-1.472	-2.598	-.074
	(0.872)	(0.967)	(1.006)	(1.757)
News-2	-.113	-3.019	-2.104	-.933
	(0.943)	(0.034)***	(1.176)	(0.846)
News-3	-.282	-3.470	-2.696	-2.619
	(1.361)	(0.724)**	(1.363)	(0.394)**
elec	-19.429	-39.544	-40.144	-24.563
	(5.893)*	(11.362)*	(19.050)	(6.229)*
GDP	0.336	1.402	0.641	1.785
	(0.129)	(0.152)**	(0.262)	(0.189)**
Univ	2.050	4.687	3.417	3.654
	(1.113)	(0.538)**	(1.494)	(1.020)*
Popul	162.862	172.032	28.861	231.296
	(86.928)	(23.627)**	(85.924)	(57.101)*
m-2	-5.218	-1.375	-.933	3.942
	(7.357)	(0.356)*	(1.984)	(4.058)
m-3	1.548	4.985	5.060	12.004
	(10.521)	(2.501)	(5.938)	(4.635)
m-4	-3.315	13.334	1.966	17.070
	(7.333)	(5.875)	(9.802)	(4.739)*
m-5	-3.061	14.992	4.063	13.307
	(7.951)	(4.670)*	(8.967)	(1.521)**
m-6	-5.745	2.977	-10.009	9.203
	(6.006)	(5.620)	(6.723)	(7.962)
m-7	0.943	4.654	-9.511	18.895
	(10.697)	(6.967)	(6.133)	(13.462)
m-8	6.072	4.289	-9.543	30.370
	(9.504)	(7.239)	(9.242)	(15.123)
m-9	-1.062	10.231	-14.762	25.858
	(8.673)	(9.736)	(10.755)	(21.642)
m-10	4.003	17.124	-11.758	25.657
	(16.445)	(11.284)	(12.327)	(17.813)
m-11	-8.525	4.968	-18.297	-1.608
	(21.441)	(9.793)	(12.177)	(8.216)
m-12	0.861	5.749	-4.037	3.202
	(11.213)	(7.818)	(3.077)	(2.808)
Obs	390	333	390	390
R^2	0.86	0.25	0.382	0.275

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables with the prefix m denotes the month dummies. For example, m-2 takes the value of one if the observation correspond to February, m-3 to March, m-4 to April and so on.

Table 72: Gender Panel: Electoral Cycle - Pool

	Overall-Employment	Overall-Income	Formal-Employment	Formal-Income
	(1)	(2)	(3)	(4)
News	-1.411	0.744	-4.598	-.896
	(0.696)	(0.358)	(0.226)**	(0.619)
News-1	-.740	-1.995	-3.883	-.141
	(0.63)	(0.211)*	(0.353)*	(0.535)
News-2	-.271	-2.965	-3.207	-.682
	(0.726)	(0.181)**	(0.539)	(0.046)**
News-3	-.747	-4.446	-4.194	-2.438
	(1.417)	(0.854)	(0.822)	(0.204)*
elec	-30.522	-47.177	-60.447	-22.538
	(4.330)*	(0.052)***	(9.407)*	(9.427)
GDP	0.37	1.349	0.847	1.413
	(0.314)	(0.036)**	(0.245)	(0.126)*
Univ	2.327	4.532	4.599	3.122
	(0.19)*	(1.553)	(0.114)**	(0.65)
Popul	197.074	137.542	50.552	171.001
	(12.611)**	(0.091)***	(24.719)	(12.438)**
m-2	-7.295	0.257	-1.377	2.843
	(0.577)**	(3.970)	(0.273)	(2.580)
m-3	4.171	7.859	8.145	10.880
	(9.230)	(6.433)	(0.69)*	(4.297)
m-4	-1.896	14.817	4.580	16.168
	(2.449)	(6.449)	(2.034)	(4.088)
m-5	-1.738	16.137	7.463	13.280
	(2.359)	(3.291)	(6.375)	(7.220)
m-6	-5.601	2.842	-13.149	9.406
	(6.387)	(1.317)	(5.796)	(13.783)
m-7	4.639	4.806	-12.176	20.636
	(3.598)	(1.023)	(4.791)	(11.097)
m-8	13.042	4.832	-11.684	31.383
	(3.904)	(5.708)	(4.429)	(5.039)
m-9	2.831	9.463	-19.004	27.648
	(6.752)	(5.276)	(3.250)	(10.808)
m-10	10.912	14.148	-13.581	25.659
	(10.131)	(7.988)	(7.627)	(11.633)
m-11	-13.671	0.079	-27.272	-4.152
	(10.842)	(2.088)	(0.619)**	(8.530)
m-12	1.091	2.658	-5.513	1.596
	(6.312)	(3.309)	(2.839)	(1.152)
Obs	260	222	260	260
R^2	0.279	0.401	0.764	0.366

Note: Robust standard errors calculated by clusters at each category level for every panel are reported in parentheses, * significant at 10%, ** significant at 5%, *** significant at 1%. The variables with the prefix m denotes the month dummies. For example, m-2 takes the value of one if the observation correspond to February, m-3 to March, m-4 to April and so on.