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## **Does union membership pay off?**

Evidence from Vietnamese SMEs

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**Abstract:** In the absence of adequate institutional mechanisms, trade unions can potentially promote higher wages and other worker benefits, yet limited data availability means little is known about the effect unions have on individual earnings in developing economies. Using matched employer–employee data from 2013 and 2015 surveys, this paper examines the union wage premium among Vietnamese small and medium-sized enterprises. Controlling for firm and worker characteristics, the results show that unionized workers’ wages are 9–22 per cent higher than those of non-union workers. The wage gain is substantially larger at the upper end of the wage distribution.

**Keywords:** union, wage, small and medium-sized enterprises, Viet Nam

**JEL classification:** C10, J31, J51, M52, O53

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## 1 Introduction

In developed economies, trade unions are generally associated with a positive work environment, including higher wages, increased benefits, reduced wage negotiation costs, and lower wage inequality and worker turnover (Freeman 1980; Standing 1992). In developing and transition countries characterized by different employment structures, including the presence of large informal and unorganized sectors, evidence remains more scarce.<sup>1</sup> However, precisely in such contexts of low wage levels, inadequate institutional support, and limited provision of public sector goods and services, trade unions represent a potentially important collective ‘voice’ for the promotion of worker benefits and welfare.

In the case of Viet Nam, the transition to a market economy has, along with a growing private sector and the parallel equitization of state-owned enterprises (SOEs), led to the formation of new employment relationships and bases for the establishment of local trade unions. Moreover, in recent years, several changes have been made to the regulatory framework, including the Labour Code and the Trade Union Law, which together provide the impetus for formalizing and strengthening the role of unions. Yet the effectiveness of workplace trade unions remains questionable due partly to their marginal independence, employer dominance, and the generally low incidence of collective agreements.

It is within this context that the current paper analyses whether trade unions are associated with higher wage outcomes, using firm-level survey data on small and medium-sized (non-state) manufacturing firms in Viet Nam from 2013 and 2015 (Rand et al. 2014). The firm panel has been matched with employee data from a subsample of workers in each year. The survey covers micro-, small, and medium-sized firms, and I use the World Bank’s classification in terms of the number of employees.<sup>2</sup> One key advantage of using matched employer–employee data is that it allows for disentangling worker from firm heterogeneity by controlling for firm *and* worker characteristics which could affect both union status and wage outcomes. Second, in being able to construct a balanced panel of workers some of whom change union status over time, I am able to control for determining factors and selected *observed* time-varying factors that may simultaneously influence the decision to unionize and subsequent wage outcomes. Third, the availability of numerous firm-level variables allows for identifying valid instruments so as to capture time-varying *unobserved* characteristics which, if left unaccounted for, could bias the results. In line with similar studies, the analysis shows a union member wage premium of around 9–22 per cent, depending on the econometric approach. Further robustness checks reveal considerable variation along the conditional wage distribution, with the union wage differential being substantially higher for the top quantiles, in turn calling into question the ability of unions to promote the rights and interests of all workers and their accountability for doing so.

In the following section I provide a selective overview of the existing literature and theoretical background. Section 3 discusses the Vietnamese context, while Section 4 describes the data.

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<sup>1</sup> See Eaton et al. (2017) and Schurman and Eaton (2012) for reviews of the growing literature on trade unions and worker organizing in the informal economy.

<sup>2</sup> The World Bank SME Department operates with three groups of SMEs: micro-, small, and medium-scale firms. Micro-enterprises have between one and ten employees, small-scale enterprises between 11 and 50 employees, and medium-sized enterprises between 51 and 300 employees. These definitions are broadly accepted by the Vietnamese Government (see Government decree no. 90/2001/CP-ND on ‘Supporting the Development of Small and Medium Enterprises’). In what follows, I apply these definitions.

Section 5 outlines the methodology and the variables included in the empirical analysis, and Section 6 presents the results of the analysis. The main conclusion, as outlined in Section 7, is that the union-related wage gain is individual, arising directly from being a union member, rather than a spill-over effect from the presence of unions. Moreover, the higher-earning segment of the workforce benefits relatively more from union membership, calling into question the responsiveness of unions to lower-paid workers.

## 2 Literature and theory

Unions provide workers with a mechanism through which to shape their employment relationship and working environment, by, for instance, improving workplace communication, increasing wages and benefits, and reducing labour turnover (Freeman and Medoff 1984). Thus, through serving as an agent for a firm's employees, a union can take on many different roles and be associated with numerous outcomes, as evidenced by the vast number of trade union studies, covering mostly the US, the UK, and other OECD (Organisation for Economic Co-operation and Development) countries.<sup>3</sup> The literature generally portrays unions as operating along at least three dimensions: their wage-making practices; their participatory role in terms of negotiating and administering labour rules related to hiring, training, promoting, and laying off workers; and their activities as a pressure group on government (Pencavel 2005). Rather than attempting to cover the enormous trade union literature as a whole, in this section I address the wage dimension, which is the focus of this paper, by providing a brief theoretical discussion followed by a concise summary of the most relevant studies.

### 2.1 Theoretical considerations

From a theoretical perspective, the trade union wage gap arises from trade unions introducing a wedge between the reservation wage of the worker and the value of a job, or in other words between labour supply and demand.<sup>4</sup> The ability of the union to achieve a wage rate that is higher than the non-union level depends on various factors, including the power of the union to act as a monopolist in the supply of labour, and the existence of economic rent or surplus in the product market. In a bargaining model where all union members have the same preferences, wages will be higher the stronger the bargaining power of unions, and the lower the responsiveness of labour demand (and profits) to wages. These relations in turn depend on the competitiveness of the product market. In a perfectly competitive market the union-imposed wedge is reduced, since a firm facing an infinite elasticity of demand is unable to pass any union wage differential on to prices. Thus, unions might be able to capture quasi-rents from capital in the short run, but in the long run the firm would leave the market in search of a higher return on capital, or be forced out by non-union firms with lower costs. In addition to the economic factors, the extent of the union wage gap also depends on the degree of coordination and centralization of wage determination activities and the competitiveness of the labour market (Boeri and van Ours 2008).

In addition to the direct individual union wage premium, spill-over effects to non-union members may occur in the presence of industry-level collective agreements, and in most OECD countries union coverage (the share of workers covered by a collective agreement) exceeds union density (union members as a percentage of the workforce). Since collective agreements ensure that non-

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<sup>3</sup> See Betcherman (2012) for a review of the literature on labour market institutions in general.

<sup>4</sup> Booth and Chatterji (1995) and Boeri and van Ours (2008) provide comprehensive reviews of trade union theory. See Lewis (1963, 1986) for earlier work on the union-related wage effect.

members, whether firms or workers, are covered by the union-negotiated wage rate, union coverage is often considered a more accurate measure of the bargaining power of unions than density. The latter has been declining in many OECD countries since the 1980s, and the option to free-ride on union-provided services and benefits is cited as one of the reasons for this (Booth and Chatterji 1995; Boeri and van Ours 2008). In the absence of extension rules, the wages of non-union workers are still likely to be affected by the presence of unions—for instance through the ‘threat effect’ of unionism, whereby non-union employers will pay wages that are comparable to those of unionized workers (Pencavel 2005). Alternatively, in the absence of such a threat effect (but in the presence of unions), workers disemployed from union firms due to a wage push will seek employment in non-union firms, shifting the labour supply right and reducing wages in this sector below what they would be in the absence of unions. Therefore, whether a threat effect exists or not, wage levels are likely to be affected by the presence of unions.

## 2.2 Recent empirical evidence

Empirical work on the union–wage relationship has been based mostly on either firm-level *or* individual data, yet since the 1990s a growing number of studies using matched employer–employee data have emerged.<sup>5</sup> For instance, Lalonde et al. (1996) use American firm data to examine the effects of newly formed unions on total output, employment, material purchases, wage rates, and productivity. They find reductions in the first three, yet firms do not experience higher wage rates. By contrast, in the UK, Hildreth and Pudney (1997) find higher wages among unionized firms, and especially for individuals covered by a collective agreement but who are not necessarily union members. Using matched employer–employee data from Spain, Card and De La Rica (2006) find that firm-level contracting is associated with a 5–10 per cent individual wage premium. Moreover, the wage gain is larger for more highly paid workers, which is in contrast to UK and US studies—where unions have tended to ‘flatten’ wages across skill groups (Lewis 1986). This difference could, however, be related to the fact that in the UK and US the comparison group is the non-union sector, whereas in Spain it is the prevailing sectoral agreement.

As mentioned earlier, union studies covering the Global South are more limited, and the findings are also more varied. For instance, Rama (2000) states that in developing countries, unionized workers usually earn between 5 and 30 per cent more than non-unionized workers. In the same study, which summarizes findings from Senegal and Cameroon, Rama (2000) shows union membership to be associated with wages that are 8–12 per cent *lower*. This atypical finding is attributed partly to the ‘subordinate’ nature of the labour movement in these countries and the distortive labour market policies of the 1980s. This work then points to the importance of the nature of the links with the government and political parties when it comes to how labour movements affect wages. In the case of South Africa, Schultz and Mwabu (1998) show that the union wage gap is as high as 145 per cent at the bottom decile of the wage distribution, whereas at the top decile there is flattening so that the difference is 11 per cent. This study, however, is unable to account for important firm attributes, such as size, which are likely to explain much of the union wage gap.

Among the few studies on the union wage premium in Asia, Korean estimates suggest very small positive impacts in the 5–6 per cent range (Fields and Yoo 2000; Park 1991). In a case study of ten Vietnamese firms, Clarke et al. (2007) document that trade unions are able to negotiate wages that are 5 per cent higher than those in non-union firms. Moreover, Edwards and Phan (2008) argue

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<sup>5</sup> See Abowd and Kramarz (1999) for a review of methods and results using matched employer–employee data. In their comprehensive review of studies on developed countries, Aidt and Tzannatos (2002) find the union wage effect to be between 5 and 15 per cent.

that since trade unions in Viet Nam are involved in the central wage decision-making processes, wages would be lower were it not for their presence and influence. However, the study provides no evidence of this.

Methodologically, the above studies are based on either qualitative assessments or cross-sections of individual worker data, and are thus unable to account for workplace characteristics or time-invariant factors. Seeking to fill this gap, an earlier study based on matched firm–worker data from 2007 and 2009 (Torm 2014) found that union membership in Vietnamese small and medium-sized enterprises (SMEs) was associated with higher wages and the provision of social benefits. The current study builds upon and extends this earlier work by constructing a balanced worker panel, allowing for a more comprehensive analysis. Moreover, since 2014 a number of regulatory changes, as examined below, have been implemented, which could influence the results. To set the scene, the next section provides an overview of Vietnamese trade unions and the context in which they operate.

### **3 Trade unions in the Vietnamese context**

Under central planning, trade unions functioned mostly as a ‘transmission belt’ for the ruling Communist Party, as described in Zhu and Fahey (2000). With Viet Nam’s transition to a market economy, a rights-based system for the regulation of industrial relations has been established, allocating a more prominent role to trade unions. As for most developing countries, data on union coverage and membership is generally limited. The Vietnam General Confederation of Labour (VGCL) provides the most reliable and recent statistics, as summarized in Table 1. According to these figures, in 2011 the total number of unions in Viet Nam was just under 110,000, the majority of which were located in the state sector. In the non-state sector, unions were found mostly within domestic enterprises (77 per cent), whereas union incidence among foreign direct investment (FDI) enterprises remains relatively low (13 per cent). In terms of union density, this was 26 per cent across the enterprise sector as a whole in 2011, compared with 16 per cent at the national level (including public servants and armed forces). Total union membership was 7.3 million in 2011, with a slightly higher share in the state sector, yet considering that this sector accounts for two-thirds of unions, the membership ratio appears to be higher in the private sector, as also evidenced by the density figures. More recent figures from 2014 estimate total union membership to be 8.6 million (not reported), thus, assuming a stable wage-earner population, this indicates an increase in union membership over time.<sup>6</sup> Regarding collective bargaining agreements (CBAs), as indicated in Table 1, national coverage in 2011 was 28 per cent, and was highest in the state sector, at 71 per cent, followed by foreign firms at 54 per cent and domestic firms at 31 per cent. Among unionized establishments the rate was around 67 per cent.<sup>7</sup>

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<sup>6</sup> The VGCL had set a target of recruiting around 600,000 new union members every year between 2013 and 2018 (VGCL 2015).

<sup>7</sup> To the extent that the figures are comparable this indicates an increase over time, as Clarke et al. (2007) estimated only 20 per cent of unionised private sector firms to have collective agreements (although in Ho Chi Minh City the figure is around 65 per cent).

Table 1: Trade union incidence and membership by sector (2011)

<i>Trade unions</i>	
Total number of unions	108,302
State sector	76,016
Public agencies	72,009
State-owned enterprises	4,007
Non-state sector	32,286
Non-public agencies	3,338
FDI enterprises	4,060
Domestic enterprises	24,888
Enterprise sector union density	25.8%
National union density (2014)	15.9%
<i>Union membership—total</i>	
State sector	3,821,431
Public agencies	2,606,332
State-owned enterprises	1,215,099
Non-state sector	3,510,401
Non-public agencies	79,734
FDI enterprises	1,473,286
Domestic enterprises	1,957,381
<i>CBAs—coverage</i>	
Nationwide	28%
FDI enterprises	54%
Domestic enterprises	31%
State sector	71%
Among unionized establishments	67%

Source: author's elaboration based on various VGL data; Chi and Torm (2015).

### 3.1 The legal framework

The Amended Labor Code (ALC) and the new Union Law (NUL) both became effective in early 2013.<sup>8</sup> In the ALC chapter XIII, on trade unions, the purpose of firm-based unions is clearly stated as follows: 'trade unions serve to represent and protect the lawful and legitimate rights and interests of trade union members and workers; participate in negotiating, signing, and monitoring the implementation of CBAs, wage scales and wage tables, work norms, wage payment regulations, and bonus regulations among others'. The ALC further stipulates that labour contracts are deemed invalid if, among other circumstances, 'the contract contains an agreement that prohibits or obstructs the employee from forming or joining a trade union'. In addition to protecting the rights and interests of their members, trade union representatives are involved in compliance procedures as stipulated in the NUL, including the implementation of regimes and policies for the employees, such as compliance with minimum wage provisions. The NUL does not, however, set out specific requirements for wages to be above the minimum or average wage in a particular industry, and

<sup>8</sup> See Decree No. 10/2012/QH13, and No. 12/2012/QH13, for details on the ALC and the NUL respectively.

thus the wage level depends on the bargaining power of the involved parties. However, the employer must consult the executive committee of the enterprise trade union on the formulation of wage scales and labour rates.

The NUL also outlines the functions, tasks, and participation of trade unions in inspecting, supervising, and monitoring the activities of agencies, organizations, and enterprises, and confirms the rights of employees to establish and join trade unions and to participate in trade union activities.<sup>9</sup> Although enterprise trade unions are free to independently represent workers' rights and interests, all trade unions in Viet Nam are required to affiliate with the VGCL—the higher-level trade union which is the only legal trade union for Vietnamese workers. The VGCL collaborates closely with the local labour department under the supervision of the relevant (Communist) Party body, and this subordination of the trade union to the Party means that workplace trade unions have limited independence and ability to act as a pressure group on government. Moreover, given that trade unions are generally headed by management rather than senior staff members, they are characterized also by weak representational capacity in that dimension.

Compared with the earlier Trade Union Law (1994), the NUL incorporates some major changes, including the requirement for all companies, whether foreign-invested or local, to pay a mandatory union fee of 2 per cent of the total payroll as a social insurance contribution, even if the enterprise has no trade union.<sup>10</sup> The 2 per cent levy is to be used for activities at all levels of trade unions, including the upper-level trade union, which will collect the payment and subsequently distribute part of the fund to the enterprise trade union. Thus, this points to an increased centralization of the ownership of all trade union assets under the VGCL. Another new dimension of the NUL, as also outlined in the ALC, is that the immediate upper-level trade union (usually at the district level) has the right and obligation to represent and protect the legitimate and lawful rights and interests of workers in situations where a grassroots (local) trade union has not been established. Previously, this was only based on employees' requests, with no automatic default protection for workers in non-union firms. In fact, the ALC lays out a number of provisions, including six months' maternity leave, a two-year work permit, and revised working and rest times, which appear to strengthen the position of employees and decrease management flexibility. The impacts of these amendments on employers and the economy as a whole remain to be seen.

### **3.2 Collective bargaining**

The ALC has sought to strengthen collective bargaining by extending the right of workers in non-unionized enterprises to be covered by a relevant collective agreement. The negotiation and monitoring of collective agreements provides an important 'test' of the effectiveness of firm trade unions in representing the interests of their members, and collective agreements should in principle include agreed wage and bonus scales.<sup>11</sup> Aside from the fact that one-third of unionized firms do not have such agreements (Table 1), the actual substance of collective agreements is questionable, since they offer few benefits for covered workers beyond conditions provided for by law. For example, a 2009 joint review between the International Labour Organization (ILO) and trade

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<sup>9</sup> Moreover, the NUL outlines the responsibilities owed to trade unions by the state, state agencies, organizations, individuals, and enterprises employing employees; guarantees trade unions' activities; handles dispute resolutions; and deals with breaches of the laws on trade unions.

<sup>10</sup> Other major changes include more protection for part-time trade union officers and prohibiting foreign workers from establishing and joining trade unions and participating in trade union activities.

<sup>11</sup> Note that Viet Nam has not yet ratified the international (fundamental) conventions related to freedom of association and collective bargaining set out by the International Labour Organization (ILO).



unions found that most agreements in Viet Nam were initiated by employers to fulfil corporate social responsibility requirements rather than as a consequence of genuine labour–management negotiations (Grimshaw and de Bustillo 2016), demonstrating employers’ unwillingness to bargain effectively. Furthermore, collective bargaining rules purposely exclude many categories of workers, such as public sector workers, foreign enterprise workers, subcontracted workers, etc., which is not very conducive to achieving labour market inclusion.

The combination of weaknesses in collective bargaining mechanisms and enterprise unions’ weak representation capacity as discussed above have meant that workers have resorted to ‘collective bargaining by riots’. Such wildcat strikes, in which workers—without the leadership of union officials—have demanded wages higher than the minimum levels and better working conditions, peaked in 2008 and again in 2011, years during which inflation levels were also high and therefore real wages low.<sup>12</sup> In fact, over 70 per cent of around 5,000 strikes which happened between 1995 and 2011 were on the basis of interests rather than rights only (Chi and Torm 2015). The garment industry, characterized by a combination of low wages and poor working conditions, is the most strike-prone sector in Viet Nam, accounting for 34 per cent of all nationwide strikes recorded during 1995–2014 (VGCL 2015). However, since 2010, when the first sectoral agreement for the garment industry was signed, efforts have been underway to construct the foundations for more effective and resilient sector-level bargaining. There are no official statistics on CBA coverage in the garment industry, yet the Ministry of Labour, Invalids and Social Affairs estimates the CBA coverage to be 50 per cent of unionized companies in 2012 (Chi and Torm 2015). This is below the average coverage rate of 67 per cent among unionized establishments, as shown in Table 1.

The pressure of labour activism has made a growing number of employers adjust their authoritarian approach to wage fixing by allowing for more participation of rank-and-file workers, and their representatives, in *de facto* wage negotiations. Nevertheless, as long as the representation capacity of enterprise unions remains weak, such models of *de facto* wage negotiations do not provide a realistic alternative to collective bargaining. Given this combination of weak union leadership, absence of specific requirements on wage levels, and ineffective collective bargaining, the extent to which unions are associated with higher wages becomes an empirical question. Against this background, I now turn to analysing the union wage premium among Vietnamese SMEs.

## 4 Data and econometric approach

### 4.1 Data

The paper is based on matched employer–employee data from two SME surveys, carried out in 2013 and 2015 (Rand et al. 2014). In both years, the surveys included a separate employee module consisting of randomly sampled employees from a random subsample of firms stratified by location. Between one and seven workers were interviewed in each firm, representing different categories. In Viet Nam, household firms are not officially registered by the central authorities under the different enterprise laws (although they are listed by local officials), and as such are not covered by the Trade Union Law.<sup>13</sup> In other words establishing a trade union is only mandatory

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<sup>12</sup> Since then, both inflation and the frequency of strikes have decreased.

<sup>13</sup> For more detail on coverage see NUL No. 12/2012/QH13, article 3. Moreover, according to Decree No. 88/2006/ND-CP on business registration, when a firm has more than ten employees and/or uses more than one business premise, it may no longer operate as a household firm, and should register as a company under the Enterprise

for firms with more than ten workers and therefore not for household firms. This is evidenced in the data, where only non-household firms report having established firm-level unions and there are no union members observed among household firms. For these reasons, I exclude household firms, and focus solely on firms categorized as private enterprises, cooperatives/collectives/partnerships (CCPs), and limited liability and joint stock companies.<sup>14</sup> After applying this selection criterion and undertaking a thorough data cleaning, including checking the consistency of time-invariant variables between the two survey rounds, I was left with an unbalanced panel of 1,594 permanent workers: 885 in 2013 and 709 in 2015, corresponding to 301 firms.<sup>15</sup> Through identifying repeatedly surveyed employees, I construct a balanced employee panel consisting of 758 individual observations (379 in each year), corresponding to 152 repeated firms.<sup>16</sup>

## 4.2 Union incidence, structure, and benefits

In this section, I consider some descriptive statistics from both the firm and employee survey modules, which could help shed some light on the results in Section 5.

### *Firm level*

Starting with the firms, Table 2, Panel A, shows that 37 per cent of firms have trade unions, and thus the majority of firms do not have local-level unions despite this being mandatory for firms with more than ten workers. However, union density has increased substantially over time, from 33 per cent in 2013 to 43 per cent in 2015, perhaps related to the NUL. The occurrence of local trade unions varies greatly by firm size, from 35 per cent in small firms to 71 per cent in medium-sized firms, and the overall increase in unions over time is attributed to the rise in their occurrence among small firms from around 30 per cent in 2013 to 41 per cent in 2015. Among legal categories, union incidence is more frequent in CCPs and limited liability companies. The latter have also seen a substantial rise over time, as have joint stock companies. Union incidence is least common among private firms. Among urban-based firms, 45 per cent have unions, compared with only 28 per cent among rural firms, yet for both categories the share has risen considerably over time. As for the different sector categories, shares are higher and relatively even for medium- and high-value-added firms, and all three categories have seen an increase. As will be seen in subsequent sections, union membership varies more for specific sectors.

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Law (2000). According to the Amended Labor Code (2012), the application for the registration of Internal Labor Rules (ILRs) which is mandatory for businesses with ten or more employees must include an ‘opinion’ obtained from the enterprise labour union.

<sup>14</sup> Naturally, firms with fewer than 11 workers (micro-firms) are free to establish unions if they wish, and in the sample 3 per cent of firms with non-household status yet fewer than 11 workers in one of the two survey years indicate having firm-based trade unions. These observations are retained in order to allow for firm dynamics, and to acknowledge that firms which have established unions previously might maintain these despite reducing the number of employees.

<sup>15</sup> I use only worker observations where a monthly wage has been recorded from the outset, rather than recalculating daily/weekly wages into a monthly equivalent, since this relies on certain assumptions about the length of the workday, working week, etc. Moreover, 129 worker observations with missing wages were omitted from the analysis. Results (not reported) from a Heckman selection procedure based on functional form identification reveal no evidence of selection bias along the wage dimension.

<sup>16</sup> The reason for restricting the analysis to two survey rounds is to be able to construct a balanced panel of workers. Since the employee module was not intended to capture repeat workers, adding an additional year would reduce the balanced panel substantially, or even make it impossible to construct one.

Table 2: Trade union incidence by firm characteristics, %

	2013	2015	Mean
<b>Panel A: All firms</b>			
Overall union incidence	0.33	0.43	0.37
<i>Firm size</i>			
Micro	0.10	0.08	0.10
Small	0.30	0.41	0.35
Medium	0.71	0.71	0.71
<i>Legal status</i>			
Private/sole proprietorship	0.27	0.30	0.28
Partnership/collective/cooperative	0.44	0.47	0.45
Limited liability company	0.36	0.46	0.40
Joint stock	0.27	0.46	0.35
<i>Urban</i>			
Urban	0.40	0.51	0.45
Rural	0.24	0.32	0.28
<i>Sector</i>			
Low value	0.28	0.34	0.30
Medium value	0.36	0.45	0.40
High value	0.30	0.49	0.39
<b>Panel B: Unionized firms</b>			
Unionized workforce	0.80	0.82	0.81
Registered with the VGCL	0.81	0.87	0.84
CBA	0.65	0.67	0.66
<i>Union chair</i>			
Owner	0.02	0.18	0.10
Owner relative	0.02	0.02	0.02
Manager	0.44	0.41	0.42
Head of HR	0.15	0.12	0.14
Senior worker	0.26	0.26	0.26
Other	0.09	0.03	0.05

Notes: Panel A is based on 301 firms (1,594 worker observations). Panel B is based on the 111 unionized firms.

Source: Author's elaboration based on SME data (Rand et al. 2014).

Turning now to those firms that have unions, Table 2, Panel B, shows that the membership rate is around 81 per cent and is rising over time. The share of firms that are registered with the higher-level trade union VGCL (as is mandatory) has also risen from 81 to 87 per cent, which could be related to the NUL. CBA incidence is around 66 per cent, which is very much in accordance with the nationwide 2011 figure (67 per cent) reported in Table 1. The union chair, as discussed earlier, is often a managerial staff member, with 42 per cent of unions being headed by managers compared with 26 per cent by senior workers. Moreover, between 2013 and 2015 there has been a substantial increase in the share of unions chaired by the firm owner. These trends raise doubts about the ability of local trade unions to live up to their mandate of defending labour rights and ensuring social benefits, job security, and safety in the workplace.

#### *Employee level*

Turning now to worker-level evidence, drawn from the employee component of the survey, Table 3 shows that union membership increased from 27 per cent to 32 per cent between 2013 and 2015, much in accordance with national union density trends presented in Table 1 (for 2011). Compared with men, a higher share of women are union members, yet over time more men are

becoming unionized. Among college graduate workers, union incidence is high at 40 per cent, compared with only 24 per cent of secondary school graduates. Belonging to a union is more common among workers aged 31–45 years, as compared with younger or older workers, but all three categories are quite evenly represented. Service workers have the highest incidence of union membership at 46 per cent, whereas among production workers only around 20 per cent are union members. As illustrated in Figure 1, in terms of the benefits of trade union membership around 37 per cent of respondents replied that ‘it secures that the firm pays social benefits’, followed by 27 per cent indicating ‘more job security’, 13 per cent replying ‘better and more stable wages’, and 11 per cent stating ‘more safety at the workplace’.<sup>17</sup> The fact that higher wages are not ranked as the main reason for union membership provides an indication that workers do *not* select into unions in order to obtain higher wages, as discussed in the following section on methodology.

Table 3: Union membership incidence by employee characteristics, %

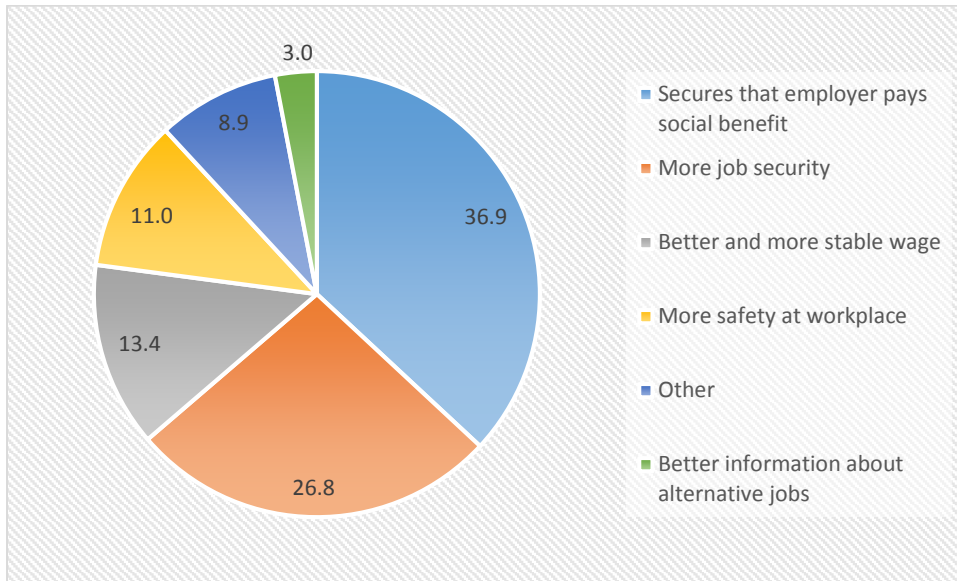
	2013	2015	Mean
All workers	0.27	0.32	0.29
<i>Gender</i>			
Women	0.31	0.34	0.32
Men	0.23	0.30	0.26
<i>Education</i>			
None	0.14	0	0.13
Primary school	0.20	0.17	0.18
Secondary school	0.21	0.28	0.24
College and higher	0.40	0.40	0.40
<i>Age</i>			
15–30 years	0.25	0.32	0.28
31–45 years	0.28	0.33	0.30
> 45 years	0.25	0.29	0.27
<i>Position</i>			
Manager	0.31	0.41	0.35
Professional worker	0.27	0.37	0.31
Office worker	0.36	0.38	0.37
Sales worker	0.33	0.39	0.35
Service worker	0.38	0.58	0.46
Production worker	0.20	0.24	0.22

Note: Based on 1,594 worker observations.

Source: Author’s elaboration based on SME data (Rand et al. 2014).

<sup>17</sup> Torm (2014) finds that union membership is significantly correlated with receiving social benefits, and this holds when restricting the sample to unionised firms only, indicating an absence of spill-overs from union members to non-members when it comes to social benefits.

Figure 1: Benefits of union membership



Source: Author's elaboration based on SME data (Rand et al. 2014).

### 4.3 Econometric approach

In order to analyse the union–wage relationship, I estimate an equation where individual wages depend on both worker attributes and the characteristics of the firm where the worker is employed. Building on the basic model of Abowd and Kramarz (1999), the specification takes the following form:

$$\ln Y_{ijt} = \alpha + X_{ijt}\beta + Z_{jt}\gamma + U_{ijt}\delta + \varepsilon_{ijt} \quad (1)$$

Where the log of (real) individual wages for worker  $i$  in firm  $j$  at time  $t$  depends on a set of individual worker characteristics ( $X_{ijt}$ ) and a vector of firm-level covariates for the firm where worker  $i$  is employed ( $Z_{jt}$ ). Our main variable of interest ( $U_{ijt}$ ) is an indicator for whether the individual is a member of a firm-level trade union. Finally, there is the worker-specific error term ( $\varepsilon_{ijt}$ ).

In estimating Equation 1, several potential biases are taken into account. First, in order to address the possibility of autocorrelation arising from repeated observations over time, the standard errors are clustered at the firm level. This allows for intragroup (within-firm) correlation over time and between workers, while maintaining the assumption that the observations are independent across firms. Second, bias may arise from the presence of unobserved individual heterogeneity, such as worker ability, which influences both wages and union membership. For example, an observed wage differential between unionized and non-unionized workers may arise simply because the workers who are most likely to become union members are also the ones with the highest unobserved abilities. In order to account for such worker fixed effects (FE), e.g. ability, in the wage specification, we estimate Equation 1 using the balanced panel. Third, bias may arise if changes in union-related policies (for instance as result of the new Trade Union Law which came into effect 1 January 2013) that influence membership are also correlated with changes in wages. To overcome these potential sources of endogeneity bias, I use standard matching techniques to control for determining factors and selected observed time-varying factors that may simultaneously influence the decision to unionize and subsequent wage outcomes. More specifically, I compare differences in wages between workers who unionized in the period 2013–15 and similar workers who remained non-unionized in the 2015 survey.

Finally, I use IV (instrumental variable) identification in order to control for time-varying *unobserved* characteristics, e.g. if the decision to unionize is a function of the perceived wage increase, beyond what is captured by unobserved fixed effects (ability) or observed changes in firm/worker attributes.<sup>18</sup> To instrument for union membership (the endogenous variable), I use the share of firms that have unions, by district and four-digit sector. In order to be able to assess the validity of the instrument (test for overidentifying restrictions), I use a second instrument—the share of firms reporting having good knowledge of the Labour Code, again by district and four-digit sector. The key assumptions of this identification strategy are that (a) the IVs are strongly correlated with the individual union membership, and (b) after adding the full set of worker and firm controls, the selected instruments have no independent influence on individual wage outcomes. If the IV assumptions hold, any observed relationship between union status and wages has a causal interpretation for workers whose union membership status is affected by the instrument (Angrist et al. 1996).

#### 4.4 Descriptive statistics

Table 4 presents the descriptive statistics for the unbalanced panel. First, the main variable of interest is union membership, taking the value 1 if the worker is a member of a union and 0 otherwise. As already seen in Table 3, union membership averages 29 per cent and increased from 27 per cent to 32 per cent between 2013 and 2015. Next, the outcome variable is the logged monthly real basic wage, which in nominal terms increased from 3.7 million Vietnamese dong (VND) in 2013 to VND4.6 million in 2015. The increase in the real wage is less steep, from VND3.2 million in 2013 to VND3.7 million in 2015.<sup>19</sup>

In terms of worker attributes, I control for gender, age, and education and training of the worker, as well as job function, hiring method, and reasons for choosing current job. The justifications for the selection of these covariates and their summary statistics are as follows. First, previous studies on Viet Nam (Bjerger et al. 2016; Torm 2014) have shown substantial gender wage gaps, which are also commonly found in other developing country studies (Jones 2001). Thus, I incorporate a gender dummy and Table 4 shows that 55 per cent of the sample are male workers. Second, I control for the age of the worker as a proxy for experience—a key variable in the standard human capital earnings function (Mincer 1974)—and include age squared to allow for a diminishing marginal effect. The average worker age is 36 years. Third, I include a series of education indicator variables, since educational attainment explains a large share of the variation in earnings across individuals (Mincer 1974; Spence 1973). Moreover, this also removes some of the bias arising from the possibility that unionized firms may hire better-quality workers. Around 64 per cent of the sample have finished secondary education, while the share of workers with a higher education is 34 per cent, and this has risen over time. Fourth, the different job functions are included as dummy variables on the basis that both wages and union membership are likely to vary substantially across occupation categories, beyond what is accounted for by education. The largest share is production

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<sup>18</sup> Bias arising from self-selection, i.e. the decision to participate in unions being a function of the perceived wage increase, is unlikely, however, since, as indicated earlier, when asked about the main benefit of being a union member, only 13 per cent of workers answered ‘better and more stable wages’, indicating that workers do not generally select into unions in order to obtain higher wages. Moreover, as indicated in Appendix Table A2, workers who have chosen their current job based on the salary are significantly less likely to be union members.

<sup>19</sup> Real wages are deflated using province-level deflators, where the base is Hanoi, year 2010. In nominal terms, the average wage is in line with the average monthly earnings of salaried workers reported by the General Statistics Office, which were VND3.8 million in 2012 and VND4.5 million in 2014 (GSO 2015). The wages we observe are substantially higher than the current minimum wage, which, depending on the region, was between VND1.65 million and VND2.35 million in 2013 and between VND2.15 million and VND3.10 million in 2015 (Decree No. 103/2014/ND-CP).

workers, at 48 per cent—a share that has increased over time, whereas managers and professional and service workers have seen declining shares between 2013 and 2015.<sup>20</sup> Fifth, I include a dummy variable for whether the worker found their job through an informal contact (knowing the owner or someone who works in the firm) as opposed to via a formal contact (advertisement, employment agency, etc.), as this has been shown to be associated with higher individual wages (Larsen et al. 2011). Informal hiring remains the most common recruitment mechanism, at 67 per cent of workers, yet with a slight decrease over time—an indication of increased formalization of the Vietnamese labour market. Sixth, training incidence is added since this has been shown to have an impact on workers' wages in Viet Nam (Bjerge et al. 2016). In addition, theoretical models have predicted that union workers receive more training and higher returns to training than non-union workers.<sup>21</sup> Seventh, based on the reasoning that job choice preferences may be related to both union status and wages, two indicator variables are included representing whether the worker chose their current job due to working conditions or for salary reasons. Table 4 shows that 23 per cent indicate having selected their job due to better working conditions and 26 per cent due to a higher salary—both have risen over time, indicating that workers are having more influence on the kinds of jobs they attain.

Turning to firm characteristics, I include firm size, legal status, location, sector, wage determination method, owners' gender and education, and the share of professional workers, casual workers, and women. First, firm size (logged) is to account for the commonly found firm-size wage premium (Oi and Idson 1999; Söderbom et al. 2005), and the possibility that larger firms may be more likely to be unionized. The average firm has 38 workers, and this has increased over time. Second, due to the substantial variation in wages and unionization across firm ownership types, I incorporate dummies for the different legal categories. In fact, ownership form has been shown to be a critical factor influencing human resource practices, including in relation to trade unions (Zhu et al. 2008). Limited liability companies comprise the largest category at 60 per cent, followed by private firms at 20 per cent, joint stock companies at 14 per cent, and finally CCPs at 6 per cent. The share of limited liability companies has increased over time, while the share of private firms has fallen, in line also with the overall rise in firm size. Third, I also control for firm location, as wages and human resource initiatives differ across provinces (Zhu et al. 2008), possibly due to the relative autonomy of provinces in the implementation of centrally planned initiatives (Nguyen et al. 2007). Table 1 shows that 58 per cent of firms are located in urban areas (Ho Chi Minh City, Hanoi, and Hai Phong). Fourth, wage returns and human resource practices may vary across sectors of production (Zhu et al. 2008), and thus I control for the different sectors. The majority of firms fall into the medium-value-added category,<sup>22</sup> and this is increasing over time. Fifth, around 33 per cent of firms respond that individual wage negotiation, which is likely to be associated with both individual wages and union membership, was the most important determinant of wages.

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<sup>20</sup> A similar pattern was observed during the 2007–09 period (Torm 2014).

<sup>21</sup> See for instance Booth and Chatterji (1995).

<sup>22</sup> Low-value-added sectors include food and beverages, textiles, apparel, leather, and recycling. Medium-value-added sectors include wood, paper, publishing, rubber, petroleum, chemicals, non-metallic minerals, basic metals, and fabricated metals. High-value-added sectors include electronic machinery, vehicles, transport equipment, and furniture.

Table 4: Summary statistics

	2013		2015		All	
	Mean	SD	Mean	SD	Mean	SD
Member of a trade union	0.27	0.44	0.32	0.47	0.29	0.45
Nominal monthly wage VND1,000	3,733.50	1,306.09	4,643.70	2,213.03	4,138.35	1,824.29
Real monthly wage VND1,000	3,178.79	1,073.89	3,652.00	1,758.40	3,389.27	1,438.58
Gender (male = 1)	0.55	0.50	0.55	0.50	0.55	0.50
Worker age	34.14	9.35	38.65	9.32	36.15	9.60
None	0.01	0.09	0.00	0.04	0.01	0.07
Primary school	0.01	0.11	0.02	0.13	0.01	0.12
Secondary school	0.66	0.47	0.62	0.49	0.64	0.48
College and higher	0.32	0.47	0.36	0.48	0.34	0.47
Manager	0.12	0.32	0.09	0.28	0.10	0.31
Professional worker	0.15	0.35	0.13	0.33	0.14	0.35
Office worker	0.13	0.34	0.14	0.35	0.14	0.34
Sales worker	0.09	0.29	0.09	0.28	0.09	0.29
Service worker	0.06	0.23	0.04	0.20	0.05	0.22
Production worker	0.45	0.50	0.51	0.50	0.48	0.50
Informally hired	0.69	0.46	0.65	0.48	0.67	0.47
Training	0.18	0.38	0.27	0.45	0.22	0.41
Job choice conditions	0.21	0.41	0.26	0.44	0.23	0.42
Job choice salary	0.24	0.43	0.27	0.45	0.26	0.44
Firm size	34.22	39.73	41.64	48.66	37.52	44.07
Private	0.23	0.42	0.17	0.38	0.20	0.40
Collective	0.06	0.23	0.06	0.24	0.06	0.23
Limited liability	0.57	0.50	0.63	0.48	0.60	0.49



Joint stock	0.15	0.35	0.14	0.34	0.14	0.35
Urban	0.57	0.50	0.59	0.49	0.58	0.49
Sector low value added	0.29	0.46	0.27	0.44	0.28	0.45
Sector medium value added	0.43	0.50	0.46	0.50	0.44	0.50
Sector high value added	0.25	0.43	0.25	0.43	0.25	0.43
Wage negotiations	0.32	0.47	0.34	0.47	0.33	0.47
Owner is male	0.50	0.50	0.44	0.50	0.48	0.50
Owner has higher education	0.95	0.22	0.97	0.17	0.96	0.20
Share of women in labour force	0.41	0.22	0.41	0.23	0.41	0.22
Share of professionals	0.10	0.09	0.09	0.10	0.09	0.09
Share of casual workers	0.07	0.15	0.05	0.14	0.06	0.15
Observations	885		709		1,594	

Note: Summary statistics are for the unbalanced panel. Real wages are deflated using province-level deflators. VND20,500 is around US\$1.

Source: Author's elaboration based on SME data (Rand et al. 2014).

Sixth, the gender of the owner has been shown to be important in terms of compensation, with female owners being more generous in the provision of non-wage benefits (Rand and Tarp 2011). Between 2013 and 2015, female-owned firms became more dominant, as indicated by the fall in male-owned firms from 50 to 44 per cent. Seventh, as well-educated managers are more likely to hire well-educated workers (Rosenbaum et al. 1999), I include a dummy indicating whether the owner has at least high school education. The share is very high, at 96 per cent, and increasing over time. Eighth, the share of female workers is included because this is likely to be correlated with lower overall wage outcomes, given the gender wage gap (Croson and Gneezy 2009). Ninth, the share of professional workers acts as a proxy for the general skills level of the workforce, which could be (positively) correlated with unobserved worker-specific ability. Moreover, if, as a result of unionization, firms choose to hire better-quality workers such that productivity increases are commensurate with the union-imposed higher wage (Lewis 1986), average worker quality would eliminate the bias that might arise from a positive correlation between union status and worker quality. Professionals make up around 9 per cent of the workforce, and the share is stable over time. Tenth, the casual workforce share (measured as the average number of casual workers relative to the average number of full-time regular workers in a year) is included as a measure of the stability of employment contracts, as this could be related to both union and wage outcomes. Given that the sample considers only formal firms, it is not surprising to see a relatively low share of casual workers, at around 6 per cent.

Table A1 shows differences in firm and worker characteristics by union membership status. As expected, (raw) wages are higher for union members, and women are more likely to be union members. Union members are slightly older than non-union members, but this is not significant. As also seen in Table 3, union members are well educated and are significantly more likely to have a college education compared with non-union workers, who are more likely to have stopped studying after secondary school. In line with the education figures, managers, office workers, sales workers, and service workers are significantly more likely to be union members (professionals also, but not significantly), whereas among production workers non-unionization is more common. Union members are less likely to have been hired informally, and training incidence is substantially higher among unionized workers—as would be expected given that unions have a longer time horizon and promote the value of training, and as also predicted by theory (Booth and Chatterji 1995). The incidence of workers who chose their current job due to the salary is lower among union members, indicating that higher wages are not a driver of unionization. As expected, union members tend to work in larger limited liability companies (and CCP firms), located in Ho Chi Minh City and Quang Nam, whereas private, more rurally based firms have a higher share of non-union members. Moreover, union workers are found in firms with highly educated female owners, and a higher share of professional workers. Finally, in terms of sectors, the ratio of union members is significantly higher in wood, chemical products, and fabricated metal products. Appendix Table A2 presents the union membership probit estimations underlying the analysis in Section 5. The results show that differences between union and non-union members clearly exist along the following dimensions: worker age, job function, firm size, CCPs, and female and professional workforce share.<sup>23</sup> Moreover, workers in firms based in Ho Chi Minh City are significantly more likely to be union members, as are those in high-value-added sectors, especially motor vehicles (results not presented). Finally, workers who chose their current job based on the salary are significantly less likely to be union members, providing further support for the argument that higher wages are not a driver of unionization. In the following section, I analyse the main results.

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<sup>23</sup> Female-headed firms are more likely to have unions, as indicated by the negative sign on the gender (male owner) coefficient, and the latter is significant if the female workforce share is omitted.

## 5 Results

In this section I present the overall results, followed by some further robustness checks using quantile regressions, and restricting the sample to only those firms that have unions.

### 5.1 General

Table 5 shows the relation between union membership and individual wages. In Column 1, when employee attributes only are included, the union wage gap is 13 per cent, yet when the first set of firm-level characteristics (size, legal status, sector, and location) are added in Column 2, the wage premium falls to 10 per cent, although this is still highly significant. In Column 3, the second set of firm-level characteristics are added (owner gender and education, workforce shares, and wage determinant), and the union coefficient remains just over 10 per cent. In order to account for the possibility that unobserved worker heterogeneity is driving the results, I use the balanced panel of workers to control for worker fixed effects (i.e. ability or motivation). Column 4 shows that the union wage gap remains when worker fixed effects are accounted for, yet the size of the coefficient drops slightly, to 9 per cent, indicating that unobserved heterogeneity is *positively* correlated with union membership. This suggests that higher-ability workers are more likely to be unionized. This is in line with Table 3, which showed that among union members the education category that comprises the highest union member share is college education, whereas among non-union workers the share falls as education levels rise. Also as shown in Table 3 and Appendix Table A2, non-production workers are more likely to be in unions than production workers. The small difference in the OLS and FE union coefficient is reassuring and indicates that the numerous controls account for a large share of ability/other unobserved heterogeneity. Assuming that the union membership contribution, which amounts to 2 per cent of wages (and which, as outlined earlier, is now a mandatory fee imposed on the employer), has not been deducted in the reported wage, the real wage gain would be slightly lower. The results are in accordance with Clarke et al. (2007) and Torm (2014).<sup>24</sup>

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<sup>24</sup> Similarly, in the case of Spain, Card and De La Rica (2006) showed that unions were associated with a 5–10 per cent individual wage premium.

Table 5: Wages and union membership

	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	FE bal.
Member of a trade union	0.133*** (0.027)	0.101*** (0.026)	0.105*** (0.025)	0.091* (0.055)
Gender (male = 1)	0.105*** (0.019)	0.107*** (0.019)	0.097*** (0.019)	
Worker age	0.027*** (0.006)	0.024*** (0.005)	0.024*** (0.005)	
Age squared	-0.306*** (0.078)	-0.266*** (0.066)	-0.261*** (0.066)	
Manager	0.308*** (0.033)	0.304*** (0.032)	0.305*** (0.032)	0.191** (0.082)
Professional worker	0.120*** (0.028)	0.121*** (0.028)	0.120*** (0.027)	0.101 (0.071)
Office worker	0.091*** (0.028)	0.092*** (0.028)	0.089*** (0.028)	-0.007 (0.055)
Sales worker	0.087*** (0.030)	0.082*** (0.029)	0.082*** (0.029)	0.067 (0.073)
Service worker	-0.042 (0.028)	-0.054** (0.027)	-0.062** (0.027)	-0.067 (0.080)
Informally hired	-0.023 (0.022)	-0.007 (0.025)	-0.007 (0.025)	-0.038 (0.037)
Training	-0.016 (0.027)	0.005 (0.024)	0.004 (0.023)	-0.008 (0.051)
Job choice conditions	0.000 (0.021)	-0.015 (0.019)	-0.020 (0.019)	-0.027 (0.041)
Job choice salary	0.058*** (0.021)	0.042** (0.020)	0.032 (0.020)	0.013 (0.040)
Education controls	Yes	Yes	Yes	Yes
Firm size	Yes	Yes	Yes	Yes
Legal ownership controls	No	Yes	Yes	Yes
Sector controls	No	Yes	Yes	Yes

Location controls	No	Yes	Yes	No
Owner gender	No	No	Yes	Yes
Owner education	No	No	Yes	Yes
Workforce shares	No	No	Yes	Yes
Wage determinant	No	No	Yes	Yes
R2	0.22	0.29	0.30	0.21
Number of groups				379
Observations	1,594	1,594	1,594	758

Notes: OLS are based on the unbalanced panel. Year dummy included in all specifications. Standard errors (in parentheses) are clustered at the firm level. \* p<0.10; \*\* p<0.05; \*\*\* p<0.01.

Source: Author's elaboration based on SME data (Rand et al. 2014).

As for the individual worker attributes, these generally conform to human capital theory. First, there is a substantial gender wage gap, with male earnings being around 10 per cent higher than those of women, depending on the exact specification. This is in line with similar studies (Bjerger et al. 2016) and appears to have fallen slightly over time (Liu 2004; Torm 2014). Second, the age of the worker is also highly significant and has the expected concave effect, with a maximum at around 40 years of age. Third, the different occupation categories indicate a substantial wage premium compared with production workers, especially for managers, who earn around 30 per cent more—although this falls to 19 per cent when ability is accounted for in the fixed effects specification. Fourth, as expected, wages are higher if the worker has chosen their job based on the salary. With regard to education (not reported), the results show positive and increasing returns, with a college graduate having a wage that is 19 per cent higher than that of a worker with no education. Yet when the firm-level control variables are added the significance disappears.

For presentational purposes, firm-level variables are not reported, yet larger firms pay significantly higher wages (Söderbom et al. 2005) and individuals working in a CCP have significantly lower wages compared with private-firm employees. Education and gender of the firm owner are not well determined, yet the share of women in the workforce is significantly negative and indicates that shifting from a 0 to a 100 per cent female worker share is associated with approximately a 13 per cent lower wage bill, which is in line with similar studies (Card and De La Rica 2006).<sup>25</sup> Both the temporary worker and professional worker shares are insignificant, the latter possibly due to being accounted for by the individual education variables. The location controls (not reported) show that workers in urban areas (Ho Chi Minh City and Hanoi) earn more than those based in rural areas. This is most likely because firms in urban areas pay an efficiency wage in order to attract more productive workers. This is in line with the Vietnam Provincial Competitiveness Index (Malesky 2009), according to which Hanoi and Ho Chi Minh City ranked no. 1 and no. 4 respectively in the 2014 labour policy sub-index, which among other components includes a measure of labour quality (PCI 2015). High-value-added sectors (especially transport equipment and furniture) generally pay higher wages than low-value-added sectors, yet medium-value-added sectors (in particular rubber and refined petroleum) generally pay lower wages than low-value-added sectors. Further, the year dummy shows an increase in real wages of about 6 per cent between 2013 and 2015.

In Table 6 I zoom in on those workers who became union members between 2013 and 2015, and compare the difference in their wages to that of similar workers who remained non-unionized in 2015. This matching approach is applied to take account of determining factors and selected *observed* time-varying factors that may simultaneously influence the decision to unionize and subsequent wage outcomes. In terms of control variables, Column 1 corresponds to the first column of Table 5, Column 2 to the second, and Column 3 to the third. In Column 1, when only employee characteristics (all lagged) are included, the union coefficient is just below 15 per cent, which is reasonably in line with Table 5. However, once firm controls are added, becoming a union member increases wages by between 22 and 28 per cent, depending on the number and type of firm-level controls. The matched results, however, do not consider the endogeneity bias arising from the possibility of workers self-selecting into unions due to *unobserved* time-varying factors that also simultaneously influence individual wages.<sup>26</sup>

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<sup>25</sup> I note that both the gender wage gap and the share of female wage gap have fallen in magnitude by 4 per cent and 12 per cent respectively since Torm (2014), based on the 2007–09 data. This is a positive development, indicating progress in achieving gender equality along the pay dimension, at least.

<sup>26</sup> In addition to nearest-neighbour matching I also use double-difference matching, and the results are qualitatively the same, yet the coefficients are smaller in magnitude in all columns (result available upon request).

Table 6: Impact of union membership on wages, matching estimates

	(1)	(2)	(3)
	ATET	ATET	ATET
Becoming union member	0.147** (0.066)	0.277** (0.119)	0.222** (0.103)
Treated	38	38	38
Observations	275	275	275

Notes: Average treatment effect of the treated (ATET) using bias-corrected nearest-neighbour matching (four matches per observation). Estimations done using the 'teffects nnmatch' command in Stata (Abadie and Imbens 2006, 2011). Matching is based on initial 2013 observed characteristics as documented in the corresponding columns in Table 5. Standard errors (in parentheses) are independent and identically distributed (iid). Matched difference-in-difference (DD) estimates are comparable, yet the coefficients are slightly smaller in magnitude (results available upon request). \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

Source: Author's elaboration based on SME data (Rand et al. 2014).

Thus, in order to deal with potential *unobserved* time-varying factors, in Table 7 I present the instrumental variables estimation (2SLS), using the instruments as described earlier, and the results confirm the positive effect of union membership on wages of workers. Columns 1a and 1b are based on the unbalanced panel, showing a union wage gap of 12 per cent—which, reassuringly, is in line with the earlier results in Tables 5 and 6. As seen in the first-stage estimation in Column 1b, the chosen instruments are significantly related to union membership. In Column 2b, based on the balanced panel, the union coefficient is higher (21 per cent) than the FE in Table 5, but comparable to the matching estimate in Table 6. As reported in the bottom rows of Table 7, the joint test of significance (F-stat) indicates that the instruments are jointly statistically significant at the 1 per cent level. Moreover, the validity of the instruments is confirmed by the Sargan and Basmann tests of overidentifying restrictions (OID), whereby I am unable to reject that the instruments are valid. All in all, this suggests that the chosen instruments influence wages only through their effect on union membership.

Table 7: Wages and union membership, IV estimates

	(1a)	(1b)	(2a)	(2b)
	First stage	Wages	First stage	Wages
Member of a trade union		0.116*** (0.035)		0.211*** (0.044)
Trade union—share of firms	0.706*** (0.033)		0.756*** (0.045)	
Labour code knowledge	0.052** (0.026)		0.040 (0.046)	
r <sup>2</sup>	0.30		0.29	
Observations	1,594		758	
F-stat (instrument relevance)	258.72***		152.89***	
OID	0.85		0.84	

Note: 2SLS estimations on the unbalanced sample (Columns 1a and 1b) and the balanced panel (Columns 2a and 2b). Control variables are the same as in Table 5, Column 3. Standard errors (in parentheses) are heteroskedasticity-robust. \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

Source: Author's elaboration based on SME data (Rand et al. 2014).

## 5.2 Robustness checks

The preceding results are all based on the mean distribution of wages, yet it is plausible that the effects of union membership vary over different parts of the conditional wage distribution, and I

explore this through a set of (semi-parametric) quantile regressions which are presented in Appendix Table A3. Column 3 shows that the union membership wage gap for the median earner is 10 per cent, which is in line with the mean estimate in Table 5, Column 3. Interestingly, the results also reveal that the union membership gain increases considerably as we move up the wage distribution, from a wage premium of 4 per cent for the tenth quantile to as much as 22 per cent for the ninetieth quantile, the latter being almost identical to both the matching estimate (Table 6) and the IV estimate for the balanced panel (Table 7). Apart from the coefficient size difference, the tenth quantile is significant at the 5 per cent level, whereas the higher quantiles are significant at the 1 per cent level.<sup>27</sup> Thus, unions in Viet Nam do not seem to be bargaining as effectively on behalf of those at the lower end of the wage distribution, and this bias towards the more skilled segment of the workforce is in part related to the management structure and political subordination of unions, as discussed earlier.<sup>28</sup>

These results differ from those of previous similar studies (Betcherman 2012). For instance, Schultz and Mwabu (1998) find that in South Africa there are large union effects at the lower part of the wage distribution and that these decrease towards the top. In the case of Ghana, Blunch and Verner (2004) show a union membership premium which is significant only for the tenth quantile. Similarly, in the US, Chamberlain (1994) demonstrates that union membership has a larger effect on the lower quantiles than on the higher quantiles of the conditional distribution of wages, and in the case of the UK public sector, Manquilef-Bächler et al. (2009) find a higher union wage return at the bottom of the distribution among males, while for females the premium is constant across the wage distribution.

The analysis so far compares the wages between union members (in unionized firms) and non-union members (in union and non-union firms). However, these two groups may not be directly comparable, because the latter have not been faced with the choice of becoming union members, unless they purposely chose to work in a non-unionized firm. Thus, the observed wage difference may simply reflect the differential between being employed in a unionized versus a non-unionized firm, rather than the individual wage gain associated with union membership.<sup>29</sup> Since about 20 per cent of workers in unionized firms are not union members, it is possible to test the wage gap within unionized firms only. Appendix Table A4 shows that within unionized firms, the wage gain from being a union member remains significant, and the coefficient of 9.8 per cent is remarkably close to that for the overall sample (Table 5). Thus, what is observed throughout the analysis is the *direct* union membership premium—rather than spill-over effects from there being a union at the firm,

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<sup>27</sup> This variation along the wage distribution is consistent with splitting the sample into the different occupation categories, which reveals that non-production workers who are union members have a higher wage than non-union members, whereas for production workers the difference is not significant (result available upon request). This in turn is related to production workers presumably having fewer options when choosing which firm to work for, meaning that being a union member may not even be a possibility. By contrast, higher-segment occupation categories have more choice and are more likely to be unionized, as also seen in the summary statistics. Splitting the sample into the different legal categories also reveals that the union wage gap is driven largely by private firms (result available upon request).

<sup>28</sup> Splitting the sample into firm-size categories reveals that the results are driven by small firms (5 per cent significance), which is due to the fact that they constitute the majority of firms. As indicated in the summary statistics, 25 per cent of firms in the sample are micro-firms, yet union membership rate among these is rather low, at 3.6 per cent (result available upon request).

<sup>29</sup> As discussed earlier, the ALC has sought to extend the right of workers in non-unionized enterprises to be covered by a relevant collective agreement, in which case there would be no union-related wage difference associated with being employed in a union versus a non-union firm.



allowing non-union members to free-ride on union members. This finding is not surprising given the low prevalence of collective agreements and lack of effective bargaining in general.<sup>30</sup>

## 6 Conclusion

This paper has examined the union wage premium among Vietnamese manufacturing SMEs using matched employer–employee survey data from 2013 and 2015. In contrast to the situation in many developed countries, union membership is on the rise in Viet Nam, and recent regulatory changes are said to have strengthened the position of employees vis-à-vis management. At the same time, however, the NUL contains elements which imply increased centralization of trade union assets, in turn adding to already limited union autonomy and representative power. These aspects, coupled with the transitional environment in which unions operate, make Viet Nam an interesting case study.

Methodologically, the main contribution of the paper, compared with similar studies, is that the data set allows for the construction of a balanced worker panel, making it possible to account for observed and unobserved time-varying factors which may influence both union status and wage outcomes. The results show that union membership is associated with higher individual earnings when both firm and employee characteristics are controlled for, and that this effect holds when using an IV approach to take account of unobserved time-varying factors. Depending on the analytical approaches adopted, the union wage premium ranges from 9 to 21 per cent, which is in line with the literature.

Further analysis reveals substantial variation along the conditional wage distribution, with the union membership gain being 19 per cent larger for the highest percentile compared with the lowest, which is an opposite finding to those of similar studies. If belonging to a union is more beneficial to workers in higher-level positions, this is concerning for the lower-segment workforce, especially given that non-adherence to minimum wage legislation is not uncommon among Vietnamese SMEs (see Hansen et al. 2016). For this reason, and as also laid out by the NUL, unions should play an imperative role in ensuring that compliance with labour regulations is upheld. Moreover, the fact that the union wage effect appears to be strongest for more-skilled workers, implies a widening of the wage-skill differential, which is somewhat concerning.

Finally, making use of the fact that trade union membership is not compulsory and therefore there are non-union workers within unionized firms, it is revealed that the observed wage difference does indeed reflect a direct individual wage gain associated with union membership, rather than a spill-over effect from being employed in a unionized firm. This result might look different if collective agreements were more effective and widespread, and local trade unions more adequately represented all workers' rights equally. The fact that the incidence of firm-based trade unions is on the rise is positive, yet their ability to act in the interests of their members depends to a large extent on the existence and extension of collective agreements based on effective and inclusive bargaining. In this area, Viet Nam still has work to do.

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<sup>30</sup> Note that when the sample of unionized firms is restricted to the balanced worker sample, the number of observations drops substantially and the significance disappears. Thus, this result should be interpreted with caution.

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## Appendix

Table A1: Differences in employee and firm characteristics by union status

	No union	Union	Difference (N-U)	t-value
Nominal monthly wage 1,000 VND	3,871.27	4,790.76	-919.49	-9.38***
Real monthly wage 1,000 VND	3,187.21	3,882.86	-695.65	-8.98***
Gender (male = 1)	0.57	0.50	0.08	2.75***
Worker age	35.95	36.63	-0.68	-1.29
None	0.01	0.00	0.00	1.03
Primary school	0.02	0.01	0.01	1.13
Secondary school	0.69	0.52	0.17	6.54***
College and higher	0.28	0.47	-0.18	-7.07***
Manager	0.10	0.13	-0.03	-1.71**
Professional worker	0.13	0.15	-0.01	-0.66
Office worker	0.12	0.17	-0.05	-2.79***
Sales worker	0.08	0.11	-0.03	-1.77**
Service worker	0.04	0.08	-0.04	-3.39***
Production worker	0.53	0.36	0.16	5.99***
Informally hired	0.70	0.60	0.10	3.91***
Training	0.19	0.30	-0.11	-4.65***
Job choice conditions	0.22	0.25	-0.02	-1.05
Job choice salary	0.28	0.21	0.07	2.76***
Firm size	28.59	59.32	-30.72	-13.32***
Private	0.23	0.13	0.10	4.46***
Collective	0.05	0.08	-0.04	-2.83***
Limited liability	0.57	0.67	-0.09	-3.46***
Joint stock	0.15	0.12	0.03	1.64**
Wage negotiations	0.33	0.33	-0.00	-0.01
Owner is male	0.51	0.39	0.12	4.50***
Owner has higher education	0.94	1.00	-0.06	-5.44***
Share of women in labour force	0.40	0.45	-0.05	-4.35***
Share of professionals	0.09	0.11	-0.03	-5.18***
Share of casual workers	0.06	0.05	0.01	0.93
Ha Noi	0.22	0.20	0.02	1.00
Phu Tho	0.02	0.01	0.01	1.35
Ha Tay	0.07	0.05	0.02	1.54
Hai Phong	0.14	0.11	0.03	1.45
Quang Nam	0.06	0.10	-0.04	-2.54**
Nghe An	0.10	0.02	0.08	5.80***
Khanh Hoa	0.13	0.04	0.09	5.48***
Lam Dong	0.05	0.04	0.01	0.51
Ho Chi Minh City	0.18	0.37	-0.19	-8.35***
Long An	0.04	0.07	-0.03	-2.95***
Food and beverages	0.14	0.12	0.02	0.92
Tobacco	0.02	0.01	0.00	0.44
Textiles	0.10	0.04	0.06	3.98***
Apparel	0.01	0.02	-0.00	-0.75
Leather	0.08	0.08	0.00	0.18
Wood	0.03	0.10	-0.07	-5.63***
Paper	0.06	0.03	0.03	2.50**

Publishing and printing	0.00	0.00	0.00	-.
Refined petroleum	0.02	0.07	-0.05	-5.50***
Chemical products	0.12	0.15	-0.03	-1.73*
Rubber	0.07	0.03	0.04	3.15***
Non-metallic mineral products	0.01	0.02	-0.00	-0.61
Basic metals	0.16	0.13	0.04	1.97**
Fabricated metal products	0.07	0.11	-0.04	-2.74***
Electronic machinery	0.01	0.02	-0.01	-1.58**
Motor vehicles etc.	0.00	0.01	-0.01	-2.52**
Other transport equipment	0.06	0.03	0.03	2.51**
Furniture	0.00	0.00	0.00	0.91
Recycling	0.02	0.03	-0.00	-0.46
Observations	1,594			

Notes: \* p<0.10; \*\* p<0.05; \*\*\* p<0.01. Real wages are deflated using province-level deflators.

Source: Author's elaboration based on SME data (Rand et al. 2014).

Table A2: Determinants of union membership

	(1)	(2)
Gender (male = 1)	-0.129 (0.160)	0.018 (0.179)
Worker age	0.060 (0.063)	0.119* (0.068)
Age squared	-0.675 (0.744)	-1.224 (0.800)
Primary school	0.076 (0.756)	0.767 (1.007)
Secondary school	0.428 (1.113)	0.953 (1.388)
College and higher	1.123 (1.118)	1.402 (1.399)
Manager	0.185 (0.194)	-0.248 (0.238)
Professional worker	-0.076 (0.215)	-0.229 (0.248)
Office worker	0.305 (0.187)	0.105 (0.237)
Sales worker	0.322* (0.194)	0.037 (0.253)
Service worker	0.999*** (0.248)	0.561* (0.317)
Informally hired	-0.402** (0.199)	-0.092 (0.250)
Training	0.610** (0.276)	0.074 (0.333)
Job choice conditions	-0.031 (0.220)	-0.077 (0.281)
Job choice salary	-0.392* (0.213)	-0.623*** (0.235)
Firm size		1.426*** (0.205)
Private		-0.079 (0.635)

Collective		1.714**
		(0.825)
Limited liability		0.140
		(0.503)
Joint stock		0.000
		(.)
Wage negotiations		0.254
		(0.328)
Owner is male		-0.288
		(0.337)
Female share		2.187**
		(0.864)
Professional share		4.067**
		(1.777)
Casual worker share		0.304
		(1.067)
Observations	1,594	1,594

Notes: Marginal effects for the pooled logit estimations. Column 1 includes employee characteristics; Column 2 adds firm characteristics including location, sector, and a year dummy. Standard errors (in parentheses) are clustered at the firm level. \* p<0.10; \*\* p<0.05; \*\*\* p<0.01.

Source: Author's elaboration based on SME data (Rand et al. 2014).

Table A3: Wages and union membership, quantile OLS, unbalanced panel

	(1)	(2)	(3)	(4)	(5)
	10th	25th	50th	75th	90th
Member of a trade union	0.040*	0.057***	0.095***	0.170***	0.215***
	(0.016)	(0.017)	(0.017)	(0.020)	(0.020)
Observations	1,594	1,594	1,594	1,594	1,594

Notes: Control variables are the same as in Table 5, Column 3. Robust standard errors (in parentheses). \* p<0.10; \*\* p<0.05; \*\*\* p<0.01.

Source: Author's elaboration based on SME data (Rand et al. 2014).

Table A4: Wages and union membership in unionized firms

	(1)	(2)	(3)
	OLS	OLS	OLS
Member of a trade union	0.087**	0.100***	0.098**
	(0.033)	(0.037)	(0.037)
r <sup>2</sup>	0.25	0.38	0.39
Observations	597	597	597

Notes: Control variables are the same as in Table 5, Columns 1, 2, and 3. Standard errors in parentheses. \* p<0.10; \*\* p<0.05; \*\*\* p<0.01.

Source: Author's elaboration based on SME data (Rand et al. 2014).