DEPARTMENT OF ECONOMICS
UNIVERSITY OF COPENHAGEN

Workshop on the Vietnamese SME sector
Main results of three in-depth studies

Supported by Danida

CIEM, Hanoi 26 March 2013

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Workshop agenda

9.00AM	Introduction and Welcome
9.15AM	First Study: The benefits of formalization
9.45AM	Discussion
10.00AM	Second Study: The informal sector wage gap
10.30AM	Discussion
10.45AM	Tea Break
11.00AM	Third Study: Wage determinants and the role of trade unions
11.30AM	Discussion and End of Workshop

First Study (1)

- "The Benefits of Formalization: Evidence from Vietnamese SMEs" (with John Rand), *World Development*, 40 (5), pp. 983-998. 2012.

(1) Introduction

- Literature on formalization outcomes mostly on macro-level effects (Loayza, 1996; Dabla-Norris & Feltenstein, 2005).
- Micro-level evidence is more limited, but generally favourable towards formalization (Farrell, 2004; Fajnzylber et al., 2009).
- BUT failure to account for endogeneity of legal status = potential bias in estimates.
- Studies that account for selection (McKenzie and Sakho, 2010; Fajnzylber et al., 2011) find that tax registration = increased profits, revenue and capital use.
- Vietnam: The informal sector contributes 20 pct. to GDP and accounts for 25 pct. of jobs.
- Implications for workers? Formalization leads to *a decrease* in the share of casual workforce share of between 12 and 16 pct. points.

(1) Data

- Qualitative: To understand (a) the factors that drive firms decisions to formalize and (b) perceived benefits of formalization.
- Quantitative: Vietnam Small and Medium Enterprise Survey 2007-09 (Danida BSP, CIEM, ILSSA).
- Our sample: Balanced panel of 1,366 household firms (informal and formal). Total number of firm observations = 2732.

Informality Transition matrix		2009				
		No		Yes		Total
2007	No	662	(82.4)	141	(17.6)	803
		(93.4)		(21.5)		(58.5)
	Yes	47	(8.4)	516	(91.9)	563
		(6.6)		(78.5)		(41.2)
	Total	709	(51.9)	657	(48.1)	1,366

Note: Number of enterprises (percentage in parenthesis). Informal firms defined as those without a tax code.

(1) Empirical strategy

- Two different empirical strategies are applied:
  - Matched double difference approach: Controlling for determining factors and selected *observed* time-varying factors that may simultaneously influence the decision to formalize and subsequent firm performance.
    - Thus, comparing **differences in outcomes** between firms that formalized and (matched) firms that remained informal between 2007 and 2009.
  - IV identification strategy: As a robustness check and to control for *unobserved* time-varying characteristics. District average of:
    - (a) On-time business registrations.
    - (b) Knowledge of relevant legal documents.
- Outcomes: Profits, investments, access to credit and casual worker share (network size, customer base, wage share and unskilled workers also tested).

(1) Table 1: Summary Statistics

	2007		2009	
	Mean	SD	Mean	SD
Formal	0.412	0.492	0.481	0.500
Profits	3.194	1.079	3.167	1.031
Investments	0.049	0.220	0.125	0.372
Credit access	0.657	0.475	0.682	0.466
Casual	0.114	0.428	0.226	0.762
Firm size	5.900	7.340	5.369	5.900
Previous performance	-0.001	0.249	-0.219	0.263
Gender of owner	0.682	0.466	0.682	0.466
Education of owner	0.406	0.491	0.444	0.497
Workforce skill level	0.460	0.424	0.319	0.384
Share of female workers	0.359	0.285	0.364	0.279
Infrastructure access	1.275	0.995	1.613	1.143
Property rights well established	0.674	0.469	0.720	0.449
Compliance inspections	1.020	1.326	1.113	1.541
Facility exclusively for production purposes	0.240	0.427	0.214	0.410
Location	0.300	0.458	0.300	0.458
High-Tech sector	0.116	0.320	0.104	0.305
Total observations	1366		1366	

(1) Table 2: Profits, investment and credit access

	1 Profit growth		2 Investment share		3 Credit access (Yes=1, No=0)	
	ATT	t-stat	ATT	t-stat	ATT	t-stat
A: Levels specification - performance controls	0.130	(1.52)	0.033	(1.49)	0.011	(0.21)
B: Levels specification - full set	0.223**	(2.52)	0.042*	(1.91)	0.075	(1.48)
C: Difference and levels specification	0.107	(1.23)	0.054**	(2.39)	0.101**	(2.03)
Total observations	803		803		803	
Treated observations	141		141		141	

Note: Average treatment effect of the treated (ATT) using bias corrected nearest neighbour matching. T-values are heteroskedasticity robust. *,**, *** indicate significance at a 10 percent, 5 percent and 1 percent level. Using a kernel matching approach with the common support restriction imposed does not change the results qualitatively, although in row A profit growth and investment share are well-determined.

- Formalization leads to profit growth of around 20 pct., investment share increase of around 4-5 pct. points and improved credit access.

(1) Table 3: Casual workforce share

	NN matching		Kernel matching	
	ATT	t-stat	ATT	t-stat
A: Levels specification - performance controls	-0.163***	(4.13)	-0.162***	(4.63)
B: Levels specification - full set	-0.158***	(4.05)	-0.148***	(3.42)
C: Difference and levels specification	-0.122***	(3.70)	-0.126***	(2.73)
Total observations	803		803	
Treated observations	141		141	

Note: Dependent variable: Casual workforce share. Average treatment effect of the treated (ATT) using bias corrected nearest neighbor/kernel matching. T-values are heteroskedasticity robust. *** indicates significance at 1 percent level.

- Formalization leads to a decrease in the share of casual workforce share of between 12 and 16 pct. points.

(1) Conclusion

- Firm outcomes: Causal evidence that formalization has a positive effect on firm profits and investments, and facilitates access to credit.
- Worker outcomes: Formalization leads to increased empowerment of workers, in terms of contract status.
- Formalization is beneficial *both* to firms and workers.
- Policy implications: To encourage firms to shift out of informality:
    (1) Need to expose the gains associated with legalization.
    (2) Enhanced information on registration procedures.

(2) Second Study

- “The informal sector wage gap among Vietnamese micro-firms" (with John Rand), *Journal of the Asia Pacific Economy*, 17:4, pp. 560-577. 2012.

(2) Introduction

- First study showed that formalization leads to improved contract status for workers. But what about wages?
- Labour market segmentation theory: wages differ between the formal and informal sectors for workers of equal potential (Fields, 1975; Dickens and Lang, 1985).
- Alternative view: firms/workers chose to locate in the informal sector and wages are comparable to formal sector wages (Maloney, 1999).
- Most studies are based on household/employment surveys without firm info (Badaoui et al., 2010; Gong and Soest, 2002).
- Studies using gross wages may overestimate the wage gap (Badaoui et al., 2007).
- Vietnam: Informal jobs account for 25 pct. and there are > 8 million informal household firms.

(2) Data

- Vietnam Small and Medium Enterprise Survey 2009 (Danida BSP, CIEM, ILSSA).
- Focus is on household enterprises, as informal firms are found only in this category.
- Informal firms defined as those without a tax code.
- Sample consists of 1,098 firm observations: 708 formal and 390 informal.
- Formal firms have a higher *total* wage bill since contracted workers receive social insurance.
- But, is there a basic wage differential?
- Main result: Average wages are 10–20 pct. higher in formal firms.

(2) Table 1: Wage gap

	Average *total* wage (million VND)	Standard error	Average *basic* wage (million VND)	Standard error
Total [1,098]	12.970	7.277	12.919	7.231
Formal [708]	13.442	6.774	13.364	6.703
Informal [390]	12.113	8.050	12.110	8.048
Difference (t-test)	1.329***	(0.457)	1.254***	(0.455)

Note: Monthly real wage per regular employee. Wages are deflated at the province level (2005=100). *** indicate significance at a 1 percent level. The figures in square brackets indicate the number of observations

- Since HH firms are not subject to the enterprise law, the observed basic wage gap is not due to minimum wages or trade unions.
- Since average wages are below the taxable threshold, the wage gap is not due to tax compensation.

(2) Empirical strategy

- Blinder-Oaxaca decomposition method used to study wage gaps by different groups (Blinder,1973; Oaxaca,1973).
- Distinguishes two different components of the wage gap:
  1) Differences in observable characteristics
  2) Variations in the returns to these characteristics

$$\overline{\ln Wf} - \overline{\ln Wi} = (\bar{X}f - \bar{X}i)'\beta i + \bar{X}i'(\beta f - \beta i)$$

- Weighted by informal firms: measures the expected change in informal firms mean (wage) outcome, if they had formal firms predictor levels/coefficients.

(2) Table 2: Summary statistics

	Total		Formal		Informal	
	Mean	SD	Mean	SD	Mean	SD
Informality	0.355	(0.479)	0.000	(0.000)	1.000	(0.000)
Firm size***	6.698	(6.541)	7.493	(7.232)	5.254	(4.730)
Firm age**	15.385	(10.337)	14.922	(9.378)	16.226	(11.849)
Owner male ***	0.723	(0.448)	0.672	(0.470)	0.815	(0.388)
Owner education*	0.484	(0.500)	0.503	(0.500)	0.449	(0.498)
Prof worker share***	0.006	(0.029)	0.008	(0.035)	0.001	(0.015)
Female worker share**	0.305	(0.275)	0.317	(0.267)	0.283	(0.288)
Temp worker share***	0.097	(0.191)	0.066	(0.154)	0.155	(0.234)
High-tech sector dummy	0.131	(0.338)	0.121	(0.327)	0.149	(0.356)
Urban***	0.411	(0.492)	0.527	(0.500)	0.200	(0.401)
North***	0.518	(0.500)	0.336	(0.473)	0.849	(0.359)
Total observations	1,098		708		390	

Note: *,**, *** indicate significance at a 10 percent, 5 percent and 1 percent level, respectively of a mean difference test.

(2) Table 3: Wage determinants

	(1)	(2)	(3)	(4)
Informality	-0.173***	-0.072*	-0.130***	-0.134***
	(0.040)	(0.039)	(0.041)	(0.038)
Firm size		0.296***	0.217***	0.256***
		(0.028)	(0.030)	(0.030)
Firm age		0.008	-0.008	0.003
		(0.026)	(0.026)	(0.025)
Owner male				-0.084**
				(0.037)
Owner education				0.133***
				(0.032)
Share of professional workers				0.883*
				(0.480)
Share of female workers				-0.521***
				(0.066)
Share of casual workers				0.656***
				(0.102)
No of observations	1,098	1,098	1,098	1,098
R-squared	0.02	0.12	0.24	0.32

Note: Dependent variable: Average (per regular employee) monthly basic wages (log). OLS estimates. Standard errors are heteroskedasticity robust. *, **, *** indicate significance at a 10 percent, 5 percent and 1 percent level, respectively. Columns 3 and 4 include province and sector dummies.

(2) Table 4: Wage decomposition

	(1)	(2)
Characteristics (explained) effect	0.156***	0.141***
	(0.058)	(0.028)
Coefficients (unexplained) effect	0.017	0.032
	(0.039)	(0.039)
Reference Group	Informal	Pooled

Note: Blinder-Oaxaca Decomposition. Columns (2) and (4) present Heckman adjusted estimates. The mean estimates for the formal sector and the informal sector are 2.459 (0.020) and 2.285 (0.034), respectively, yielding a predicted difference of 0.174 (0.040). Standard errors reported in parenthesis. *, **, *** indicate significance at a 10 percent, 5 percent and 1 percent level, respectively.

- The characteristics effect shows that, dependent on the reference group, differences in characteristics account for 82 – 92 pct. of the wage gap.
- An adjustment of informal firms' characteristics to that of formal firms would increase the wage level in informal firms by 14.1 – 15.6 pct.
- The majority of the informal sector wage gap is explained by differences between informal and formal firms in selected owner and firm characteristics (firm size, location and professional workforce share).

(2) Conclusion

- Average wages are 10-20 pct. higher in formal household firms.
- The vast majority of the wage gap is attributed to differences in characteristics between formal and informal firms.
- Moreover, higher wages in formal firms is an indication of more qualified workers.
- Enhanced performance associated with operating formally may be linked to worker quality.
- Policies towards *improving the general skill level* could allow workers to access more gainful employment in the formal sector *and* encourage firms to formalize.

(3) Third Study

- "The role of trade unions in Vietnam: A case study of small and medium enterprises", *Journal of International Development*. 2012

(3) Introduction

- The Labour Code (1994) mandates that enterprises with > 10 employees must establish local trade unions *and* have legally binding collective agreements.
- Yet, union density remains low around 50 pct. and only 20 pct. of unionized private firms have collective agreements (VGCL, 2010) - especially low prevalence among SMEs (around 25 pct.).
- However, the growing focus on Corporate Social Responsibility (CSR) is pressuring trade unions to act in the interests of their members and ensure the observance of labour legislation.
- The union wage-gap depends on the bargaining power of the relevant parties.
- Clarke et al. (2007) based on a case study of 10 Vietnamese firms find a 5 per cent wage premium in unionized firms.

(3) Data

- Vietnam Small and Medium Enterprise Survey 2007 and 2009 (Danida BSP, CIEM, ILSSA).
- Focus on small and medium firms as firms with < 10 workers are not required to establish a trade union.
- Matched employer–employee data: controlling for firm and worker characteristics that could affect both union status and wage outcomes.
- Unbalanced panel of 1153 workers: 477 (2007) and 676 in (2009) from 338 formal firms.
- Main results: Union members earn wages that are about 7 pct. higher and are more likely to receive social insurance.

(3) Empirical strategy

$$\ln Yijt = \alpha + Xijt\beta + Zjt\gamma + Uijt\delta + \varepsilon ijt$$

- The log of the real individual wage (Y*ijt*) for worker *i* in firm *j* at time *t* depends on:
- A set of individual characteristics X*ijt*
- A vector of firm level covariates for the firm where worker *i* is employed Z*jt*
- An indicator for whether the worker is member of a trade union U*ijt*
- A worker specific error term Ɛ*ijt*

(3) Table 1: Summary statistics

	Total		2007		2009	
	Mean	SD	Mean	SD	Mean	SD
Log monthly real wage	6.433	0.435	6.398	0.442	6.458	0.429
Social Insurance	0.529	0.499	0.470	0.500	0.570	0.496
Trade union member	0.351	0.478	0.304	0.460	0.385	0.487
TU member if firm union=1	0.851	0.357	0.775	0.418	0.900	0.301
Gender (male = 1)	0.524	0.500	0.516	0.500	0.530	0.500
Age	33.71	9.844	34.151	10.382	33.410	9.442
Higher education	0.785	0.411	0.799	0.401	0.776	0.418
Manager	0.140	0.347	0.149	0.356	0.133	0.340
Professional worker	0.169	0.375	0.195	0.397	0.151	0.358
Sales worker	0.108	0.311	0.130	0.337	0.093	0.291
Production worker	0.375	0.484	0.298	0.458	0.430	0.495
Other	0.208	0.406	0.229	0.420	0.194	0.396
Informal	0.640	0.480	0.539	0.499	0.712	0.453
Observations	1153		477		676	

(3) Table 2: Wages

	(1)	(2)	(3)
Union member	0.132***	0.075*	0.073*
	(0.041)	(0.040)	(0.038)
Employee characteristics	Yes	Yes	Yes
Firm characteristics	No	Yes	Yes
Firm workforce characteristics	No	No	Yes
R-squared	0.124	0.154	0.390
Observations	1,153	1,153	1,153

Note: Dependent variable: Log real individual wages deflated at the province level. OLS. Robust standard errors clustered at the firm level (in parenthesis). *** p<0.01, ** p<0.05, * p<0.1

- Results largely in accordance with Clarke et al. (2007), who report a 5 per cent trade union wage premium.
- Other wage determinants: Gender, age, education, job function, informal hiring (Larsen, Rand, Torm, 2011).
- Firm level: Firm size, urban, sector, female share, CCPs.

(3) Table 3: Social benefits

	(1)	(2)	(3)
Union member	0.527***	0.570***	0.575***
	(0.047)	(0.051)	(0.050)
Employee characteristics	Yes	Yes	Yes
Firm characteristics	No	Yes	Yes
Firm workforce characteristics	No	No	Yes
Observations	1,153	1,153	1,153

Note: Dependent variable: Employee receives social benefits. Probit estimates, marginal effects. Year dummy included. Robust standard errors clustered at the firm level (in parenthesis). *** p<0.01, ** p<0.05, * p<0.1

- Results hold also *within* unionized firms (476 observations).
- Other benefit determinants: Education, job function, informal hiring.
- Firm level: Firm size, South, limited liability, joint stock, professional share.

(3) Table 4: Wages by location

	North	South	South	South
	(1)	(2)	(3)	(4)
Union member	0.067	0.195***	0.141***	0.219**
	(0.048)	(0.068)	(0.054)	(0.085)
Employee characteristics	Yes	Yes	Yes	Yes
Firm characteristics (all)	No	No	Yes	Yes
Firm has a union	No	No	No	Yes
Observations	619	534	534	233

Note: Dependent variable: Log real individual wages. Column (1) Northern provinces ; column s(2)-(4) Southern provinces. OLS. Robust standard errors clustered at the firm level . *** p<0.01, ** p<0.05, * p<0.1

- Higher concentration of collective agreements in HCMC – 65 pct. (VGCL, 2010).
- Southern trade unions traditionally more independent (Edwards and Phan, 2008).
- Firms in HCMC have more modern HRM management (Zhu et al. ,2008).

(3) Conclusion

- Union-wage gap is about 7.5 pct., and up to 22 pct. in Southern provinces.
- Union membership is strongly associated with receiving social benefits - also *within* unionized firms.
- Thus, unions seem to protect the rights of their members.
- Yet, *all* formal firms are mandated by the Law on Social Insurance to contribute towards social security for regular workers.
- Policy implications: (a) need to improve the enforcement of regulations, and heighten workers' awareness of their rights, (b) enhanced enforcement of Trade Union Law.

Cảm ơn/Thank you/Merci

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