

# Invitation

You are cordially invited to the public defense to obtain the academic degree of

**DOCTOR OF ECONOMICS**

by Haotian Deng

**Small firms' responses to payroll tax cuts: Tax incidence, wage setting, and entrepreneurship**

Supervisors:

Prof. dr. Bart Cockx - Dr. Sam Desiere

**Monday, 2 March 2026 at 17h30**

In room 'Faculteitsraadzaal', Campus Tweeherken, Tweeherkenstraat 2, 9000 Ghent

Please confirm your attendance no later than 23 February by filling in [this Google form](#)

*If the form does not work for you, you are very welcome to contact me by email ([Haotian.Deng@ugent.be](mailto:Haotian.Deng@ugent.be)).*

## EXAMINATION BOARD

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My thesis studies how small firms respond to payroll tax cut policies. It exploits quasi-experimental tax reforms in Belgium in 2016 and uses Belgian administrative data covering the universe of small (micro) firms, combined with econometric causal inference methods. The thesis addresses classical questions at the intersection of labour economics and public economics: payroll tax incidence, wage setting, and entrepreneurship. It focuses on new employer firms—firms that have just hired their first employee. New employers are the engine of net job creation, and payroll taxes are a significant component of their labour costs, influencing entrepreneurial decisions. Yet these issues from the perspective of the nonemployer–employer transition are largely overlooked in the existing literature.

Paper 1, *“Subsidy for the first hires and firm performance”*, shows that Belgium's governmental support for small businesses' hiring led to the entry of low-growth start-ups rather than high-growth scale-ups over the past decade. In 2016, Belgium introduced a permanent exemption from payroll taxes for prospective first-time employers hiring their first employees, with the hope that more firms would take the leap to hire their first employees. This goal was achieved, but we did not know how successful these new employers have been. By comparing firms before and after the reform (regression discontinuity designs), we find that subsidised firms hired fewer employees and generated lower output and profits. However, these firms were more likely to survive than pre-reform firms. This smaller firm size reflects the entry of less productive firms that were only able to afford their first hires because of the reform.

Paper 2 (my job market paper), *“Who benefits from payroll tax cuts? Windfall gain and rent sharing in small firms”*, finds that owners of new employer small firms do not share temporary windfall gains (tax benefits) with their employees but pocket the gains themselves. At the same time of the 2016 reform, the government also initiated a policy by-product out of fairness concerns: firms that hired their first employees slightly beforehand (in the year 2015) were granted a temporary (three years) payroll tax exemption. This measure was not aimed at any specific economic goals yet provided an ideal opportunity to uncover small firms' behaviours. By using a triple-difference design following treated firms and their employees over five years, we do not observe that these small firms utilise the gains to pay higher wages to their employees or expand their firm size. This implies that employment contracts are income stabilisers insensitive to temporary business profits and that a limited tax benefit is not sufficient to elicit entrepreneurial ambitions.

Paper 3, *“Who bears payroll taxes at firm entry? Payroll tax incidence for hiring the first employee”*, pioneers in documenting that employees capture roughly 1/3 of the payroll tax cuts (and thus, employers capture 2/3) at the point of firm entry. This paper revisits the permanent tax exemption policy yet with the focus on the distributional consequences of taxes (tax incidence). It uses a rich toolkit—incorporating a difference-in-difference design, a firm entry model, and a sample-trimming strategy—to combat the reform-induced composition change of firms, a threat to treatment effect identification. Tax incidence has been extensively studied for incumbent (existing) firms but rarely for entrants (new firms). Our innovative evidence reveals that tax cuts increased both the working time and the wages of the employees of new employers, and that at this entrepreneurial transition, new employers have to bear a significant share of taxes, which rationalises why firm entry is sensitive to labour costs.

Taken together, the thesis extends the firm size distribution and entrepreneurial decision theories of Lucas (1978) and Jovanovic (1982) to the nonemployer–employer margin. It shows that employment subsidies reshape the entrepreneurial landscape through a quantity–quality trade-off, wage bargaining plays a larger role at firm entry than after entry, and that the effectiveness of firm support policies depends not only on its generosity but also in timing and anticipation.

### **Curriculum vitae**

Haotian Deng (born 1997, Jiangxi, China) holds a Bachelor's degree in Financial Engineering (2018, Sichuan University) and a Master's degree in Finance (and minor in economics) (2021, Peking University). He is a PhD student in economics at Ghent University since December 2021. He studies labour economics, public economics, and causal inference. His research engages with both empirical applications and applied microeconomic theory. He enjoys rigorous academic reasoning as well as scientific storytelling. Thus, he presented his research in international conferences including: the Royal Economic Society Annual Conferences (2024, Belfast; 2025, Birmingham); the European Association of Labour Economics Conference (2023, Prague); the Royal Statistical Society International Conference (2025, Edinburgh); the European Causal Inference Meeting (2025, Ghent); ISEG Summer School (2025, Lisbon); the Belgian Days for Labour Economists (2022, 2023, 2025, Brussels). Paper 1 of his PhD is now revise-and-resubmit at *Small Business Economics*. Apart from his PhD, he also co-authored in one PhD chapter of Jinkai Li, a former colleague of our department.