

Labour Productivity

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✓ Starting point:

a) Very large and persistent productivity differences across firms, even in narrowly defined sectors

Examples:

- US manufacturing industry: the plant at the 90th percentile of the productivity distribution produces ceteris paribus (i.e. with the same observed inputs) almost *twice* the output of the 10th percentile plant (Syverson, 2004).
- Danish manufacturing and services industries: for the same inputs, a firm at the 90th percentile of the productivity distribution makes 3.27 as much output as the 10th percentile firm (Fox and Smeets, 2011).
- Productivity differences among plants appear to be even more pronounced in developing countries, e.g. average 90-10 productivity ratios estimated above 5 in China and India (Hsieh and Klenow, 2009).

b) Other robust findings (almost invariant across countries, industries and time):

- High-productivity firms are more likely to survive than their less efficient counterparts.

⇒ “Productivity is quite literally a matter of survival for businesses”
(Syverson, 2011)

“Productivity isn’t everything, but in the long run it’s almost everything”
(Krugman, 2008)

“While the contribution of productivity to economic growth in the short term may seem relatively small, the cumulative effects of changes in productivity are the sole sustainable source of long-term growth” (Dhyne and Fuss, 2014)

c) International context:

Productivity growth has been decreasing in most advanced economies since the year 2000, and especially since the Great Recession.

This is a major source of concern as it affects the current situation of economies but also their future growth potential.

Europe vs US:

- Decrease in productivity growth has been more pronounced in the EU than in the US.

Productivity growth in the US has returned to its pre-crisis level since 2010.

- This is not the case in the EU.

EU situation: bad demand forecasts and financial constraints (both in public and private sectors) have a strong detrimental effect on investments which are required to bring productivity and potential GDP growth back to their historical levels.

This situation, in turn, deteriorates public finances and puts some additional pressure on social protection systems.

Overall, slow productivity growth associated to weak internal and external demand accentuates the risk that EU countries enter in a so-called 'secular stagnation phase' (Dhyne and Fuss, 2014).

These observations have stimulated a substantial amount of research aiming to get a better understanding of **'What determines (labour) productivity?'**

Research output should notably help to design better policies to enable EU countries to return faster to their pre-crisis situation and, more generally, to increase future GDP growth potential in advanced (and developing) countries.

Correlated issue: **'Misalignment of productivity and wages?'** (in connection to a series of covariates such as e.g. age, education, gender, regions), reflecting discrimination and/or problems of employability.

✓ Objective of the seminar:

Provide **a critical analysis of a scientific article** devoted to a specific determinant of labour productivity.

This boils down to:

- a) Explain policy relevance of research question and added value of paper.
- b) Describe competing theoretical models/predictions.
- c) Present (briefly) the data and (more extensively) the methodology used in the paper.
- d) Describe/comment key regression results (watch out for the functional form !).
- e) Discuss main econometric issues that (should) have been tackled (e.g. omitted variables biases, unit roots, time-invariant unobserved heterogeneity, endogeneity) and potential limitations of the paper.
- f) Provide in-depth comparison with extant literature (with specific focus on type of data, methodologies/estimators, results).
- g) Suggest some avenues for future research.

References :

- i) Boeri T. et van Ours J. (2013), *The Economics of Imperfect Labor Markets*, Princeton University Press, Princeton.
- ii) Cahuc, P., Carcillo, S. & Zylberberg, A. (2014), *Labor Economics*, MIT Press, Cambridge.
- iii) **Dhyne, E. and Fuss, C. (2014), “Main lessons of the NBB’s 2014 conference on ‘Total factor productivity: measurement, determinants and effects’”, *Economic Review*, National Bank of Belgium, December: 69-82.**
- iv) Ehrenberg, R.G. & Smith R. (2014), *Modern Labor Economics, Theory and Public Policy*, Pearson Education.
- v) Lesueur, J.-Y. et Sabatier, M. (2008), *Micro-économie de l’emploi. Théories et applications*, De Boeck, Bruxelles.
- vi) **Syverson C. (2011), “What Determines Productivity?”, *Journal of Economic Literature*, 49 (2): 326-365.**

✓ Research questions / papers

1. The productivity effects of human capital:

a) Education:

Lebedinski, L. and Vandenberghe, V. (2014), “Assessing education's contribution to productivity using firm-level evidence”, *International Journal of Manpower*, forthcoming.

b) Over-education:

Grunau, P. (2014), “The impact of overeducated and undereducated workers on firm-level productivity: First evidence for Germany”, Institute for Employment Research (IAB), Nuremberg, unpublished manuscript.

c) Training:

Konings, J. and Vanormelingen, S. (2014), “The impact of training on productivity and wages: firm level evidence”, *Review of Economics and Statistics*, forthcoming.

2. The productivity effects of demographics:

a) Age:

Cardoso, A., Guimaraes, P and Varejao, J. (2011), “Are older workers worthy of their pay? An empirical investigation of age-productivity and age-wage nexuses”, *De Economist*, 159 (2): 95-111.

b) Gender:

Hellerstein J. K. and Neumark D. (1999) ‘Sex, wages and productivity: An empirical analysis of Israel firm-level data’, *International Economic Review* 40(1): 95–123.

c) Origin:

Bartolucci, C. (2014), “Understanding the native-immigrant wage gap using matched employer-employee data: evidence from Germany”, *Industrial and Labor Relations Review*, 67 (4): forthcoming.

3. The productivity effects of industrial relations:

a) Incentive pay:

Grund, C. and Westergaard-Nielsen, N. (2008), “The dispersion of employees’ wage increases and firm performance”, *Industrial and Labor Relations Review*, 61 (4): 485-501.

b) HRM practices:

Ichniowski, C., Shaw, K. and Prennushi, G. (1997), “The effects of human resource management practices on productivity: A case study of steel finishing lines”, *American Economic Review*, 87 (3): 291-313.

c) Trade unions:

Hübler, O. and Jirjahn, U. (2003), “Works councils and collective bargaining in Germany: The impact on productivity and wages”, *Scottish Journal of Political Economy*, 50 (4): 471-491.

4. The productivity effects of labour contracts, promotions and absenteeism:

a) Working time:

Künn-Nelen, A.; De Grip, A.; Fouarge, D. (2013), “Is part-time employment beneficial for firm productivity?”, *Industrial and Labor Relations Review*. 66 (5): 1172-1191.

b) Temporary employment:

Capellari, L., Dell’Aringa, C. and Leonardi, L. (2012), “Temporary employment, job flows, and productivity: A tale of two reforms”, *Economic Journal*, 122 (562): 188-215.

c) Promotions:

Sabatier, M. (2012), “Does productivity decline after promotion? The case of French Adademia”, *Oxford Bulletin of Economics and Statistics*, 74 (6): 886-902.

d) Absenteeism:

Herrmann, M. and Rockoff, J. (2012), “Worker Absence and Productivity: Evidence from Teaching”, NBER Working Paper, No. 16524, Cambridge (Ma.).

5. The productivity effects of sleep quality, personality, trust and diversity:

a) Sleep quality:

Baert, S., Omeij, E., Verhaest, D. and Vermeir, A. (2014), “Mister Sandman, bring me good marks! On the relationship between sleep quality and academic achievement”, IZA Discussion Paper, No. 8232, Bonn.

b) Personality:

Cubel, M., Nuevo-Chiquero, A., Sanchez-Pages, S. and Vidal-Fernandez, M. (2014), “Do Personality Traits Affect Productivity? Evidence from the Lab”, IZA Discussion Paper, No. 8308, Bonn.

c) Trust:

Brown, S., Gray, D., McHardy, J. and Taylor, K. (2014), “Employee Trust and Workplace Performance”, IZA Discussion Paper, No. 8284, Bonn.

d) Diversity

Pierpaolo Parrotta, P., Pozzoli, D. and Pytlikova, M. (2014), “Labor diversity and firm productivity”, *European Economic Review*, 66: 144-169.

6. The productivity effects of IT, R&D, outsourcing and job flows:

a) IT:

Van Ark, B., O'Mahoney, M. and Timmer, M. (2008), "The productivity gap between Europe and the United States: Trends and Causes", *Journal of Economic Perspectives*, 22 (1): 25-44.

b) R&D:

Guellec, D. and van Pottelberghe, B. (2004), "From R&D to productivity growth: Do the sources of funds and institutional settings matter?", *Oxford Bulletin of Economics and Statistics*, 66 (3): 353-376.

c) Outsourcing:

Görg, H., A. Hanley and E. Strobl, "Productivity effects of international outsourcing: Evidence from plant level data", *Canadian Journal of Economics*, Vol. 41, No. 2, 2008, pp. 670–688.

✓ **Outline of the seminar:**

- a) **20 pages maximum** (excluding references and appendices).
- b) Try to have a **global view** of the issue.
- c) **Take a step back** from your sources. Plagiarism is a serious academic offence.
- e) The **introduction and conclusion are key**.
- d) Pay attention to the layout of your work and get it proofread.
- f) **Number the pages, charts and graphs**. No « *copy & paste* » !
- e) Always **cite your source** clearly (also below tables and graphs).
- g) Insert **main tables in the text**.
- h) Appendices should only contain documents providing *really useful* information for the reader.
- i) **References:**
 - In the text, indicate the name of the author followed by the year of publication between parentheses, e.g. Lazear (2000).
 - Provide a complete list of references, in alphabetical order, at the end of the seminar:
 - For monographs (books, reports, ...) :
Lazear E.P. (1995), *Personnel economics*, MIT Press, Cambridge (MA).
 - For articles in scientific journals:
Winter-Ebmer R. and Zweimüller J. (1999), “Intra-firm wage dispersion and firm performance”, *Kyklos*, 52 (4): 555-72.

✓ Where to find sources ?

a) **UCL library**: <http://www.uclouvain.be/bsp.html>

You'll notably find:

- Databases : ECONLIT, OECD, EUROSTAT, IMF, etc.

EconLit, published by the American Economic Association, provides bibliographic coverage of a wide range of economics-related literature. More precisely, it provides references, with abstracts, of books, contributions in books, articles from more than 700 scientific journals, working papers and dissertations.

- A large number of scientific journals in economics and managements.

b) **Google Scholar**: <http://scholar.google.com>.

c) **IZA Discussion Papers**: <http://www.iza.org/en/webcontent/publications/papers>

✓ **Office hours :**

By appointment (frycx@ulb.ac.be).

I should be often at UCL on Thursdays from 2 to 4 pm (Office D103, 1st floor, building Dupriez, Place Montesquieu 3).

✓ **Deliverables:**

1 electronic copy (to be sent to frycx@ulb.ac.be).

Deadline : April 2, 2015.

✓ **Oral Defence:**

Date: Between April 20 and May 8, 2015.

- **10 minutes** maximum for presentation.
- **20 minutes** for discussion.

✓ **Summary of subjects:**

1. Education, over-education, training.

2. Age, gender, origin.

3. Incentive pay, HRM practices, trade unions.

4. Working time, temporary employment, promotions, absenteeism.

5. Sleeping hours, personality, trust, diversity.

6. IT, R&D, outsourcing.