Estimating macroeconomic impact of pro-competitive reforms

W. Roos

Nos valeurs : l'ouverture, la loyauté, l'engagement, l'esprit d'équipe
General considerations regarding the evaluation of pro-competitive reforms

Pro-competitive reforms

- Purchasing power gains for users (households and firms)
- Rents reduction in regulated sector/professions
- Productivity gains

- Income reduction for a few households
- Cash-flow reduction for regulated firms
General considerations regarding the evaluation of pro-competitive reforms

Microeconomic evaluation depends on available data (sectorial data and comparable foreign experience)

- For instance, the assessment of opening Sunday work relies on
  - Impact of authorizing unrestricted Sunday work in other countries (UK, Sweden, Canada)
    - 50% of shops decides to use this new right and to open
    - It increases employment by 7% in those shops,
    - Consumption increases by 1%
  - French data on consumption (domestic and from tourists) to assess the impact on total consumption

These results are then plugged as microeconomic shocks into general equilibrium macroeconomic model (Mésange)

- These shocks can be of several types (price, revenue, productivity, margins)
Exemple (1) Purchasing power gains and cash-flow reduction

Pro-competitive reforms

- Purchasing power gains for users (households and firms)
- Rents reduction in regulated sector/professions
- Income reduction for a few households
- Cash-flow reduction for regulated firms
- Productivity gains
Exemples (1) : Opening up the coach transportation offer

Opening of the inter-urban and scheduled coach service. Expected effects are as follows:

1. Prices are lower than existing transportation offers: For a Paris-Lille or Paris-Lyon journey, high-speed train (TGV) fares are twice as high as the coach travel equivalent offer.

2. An increase in demand for transport from the least well-off: the first half of the income distribution represents only ¼ of TGV travel. Coach travel service will enable for an increase in the mobility of a significant part of the population (eg. Student, seniors).

3. Substitution effect between coach travel and other transportation means: Some consumers could prefer traveling with slower but cheaper transportation means.

(2) + (3): reduction of market share of other means of transportation in favor of coach travel services. (coach services represent between 4% to 6% of journeys in some foreign countries (UK, Sweden, Germany)).

(1) : Price reduction amounting to €1bn for households (only price effect)
Exemples (1) : Opening up the coach transportation offer

- Who own the monopoly rents?
- *Reduction in some household income? No*
- *Decrease of financial margins for some firms? Yes*
  ➔ Negative shocks on firms cash flow (1/10th of total impact on GDP)

### Macroeconomic impact of a €1bn price reduction and an equivalent cash flow reduction

<table>
<thead>
<tr>
<th></th>
<th>3rd year</th>
<th>5th year</th>
<th>10th year</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (volume)</td>
<td>0,01</td>
<td>0,03</td>
<td>0,03</td>
</tr>
<tr>
<td>Household consumption</td>
<td>0,03</td>
<td>0,06</td>
<td>0,07</td>
</tr>
<tr>
<td>Investment by non financial corporations and individual entrepreneurs</td>
<td>0,00</td>
<td>0,01</td>
<td>0,03</td>
</tr>
<tr>
<td>Employment (thousands)</td>
<td>4</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Consumer price index</td>
<td>-0,07</td>
<td>-0,12</td>
<td>-0,12</td>
</tr>
<tr>
<td>Production price index</td>
<td>-0,02</td>
<td>-0,03</td>
<td>-0,03</td>
</tr>
</tbody>
</table>
Exemple (2) Purchasing power gains, cash-flow reduction and income reduction for rents holder

Pro-competitive reforms

- Purchasing power gains for users (*households and firms*)
- Rents reduction in regulated sector/professions
- Income reduction for a few households
- Cash-flow reduction for regulated firms
- Productivity gains
Exemples (2) : Reviewing regulated tariffs

- **Lower fees:**
  1. **Price reduction for users (corporate and households) (direct effect):** €1.5bn
  2. **Monopoly rents reduction:** most regulated legal professions are (high-earning) independent workers whose income and cash-flow are mixed up.

<table>
<thead>
<tr>
<th>Propensity to consume of the 5th quintile (20% wealthiest households)</th>
<th>Average propensity to consume</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.65</td>
<td>0.83</td>
</tr>
</tbody>
</table>

- **Rents reduction**
  - **High income households:**
    - €0.75bn disposable income reduction → €0.49bn consumption reduction
  - **Cash-flow:**
    - €0.75bn cash-flow reduction for some businesses

- **Purchasing power gains**
  - **Consumer prices:**
    - €0.75bn real disposable income increase → €0.62bn consumption increase
  - **Input prices:**
    - €0.75bn prices reduction → increase competitiveness

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Estimating macroeconomic impact of pro-competitive reforms
Exemples (2) : Reviewing regulated tariffs

Macroeconomic impact of lowering fees for regulated professions –before productivity gains

(€1.5bn price shock+ rents decrease: 50% over last decile income and 50% over cash flow)

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</tr>
</thead>
<tbody>
<tr>
<td>GDP (volume)</td>
<td>0.01</td>
<td>0.03</td>
<td>0.04</td>
</tr>
<tr>
<td>Household consumption</td>
<td>0.01</td>
<td>0.03</td>
<td>0.05</td>
</tr>
<tr>
<td>Investment by non financial corporation and individual entrepreneurs</td>
<td>0.03</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>Employment (thousands)</td>
<td>3</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Consumer price index</td>
<td>-0.08</td>
<td>-0.15</td>
<td>-0.18</td>
</tr>
<tr>
<td>Production price index</td>
<td>-0.04</td>
<td>-0.09</td>
<td>-0.11</td>
</tr>
</tbody>
</table>

Composition of the GDP impact

<table>
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<th>3rd year</th>
<th>5th year</th>
<th>10th year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing power</td>
<td>0.02</td>
<td>0.05</td>
<td>0.06</td>
</tr>
<tr>
<td>Rent decrease</td>
<td>-0.01</td>
<td>-0.02</td>
<td>-0.02</td>
</tr>
</tbody>
</table>
Evaluating productivity gains

Pro-competitive reforms

- Purchasing power gains for users (households and firms)
- Rents reduction in regulated sector/professions
- Income reduction for a few households
- Cash-flow reduction for regulated firms

Productivity gains
Assessing productivity gains through $\Delta PMR$

- Bourles et alii. (2010) assess the link between regulation level and productivity

\[
\Delta \ln MFP_{c, s, t} = \alpha_1 \Delta \ln MFP_{F, t-1} + (1 - \alpha_0) \text{gap}_{c, s, t-1} + \alpha_3 \text{REG}_{c, s, t-1} + \alpha_4 \text{REG}_{c, s, t-1} \cdot \text{gap}_{c, s, t-1} + \gamma + \gamma_{c, t} + \varepsilon_{c, t} \\
0.32 -0.124 -0.132 1.71\% (FR/US)
\]

LT: $\Delta MFP = \frac{(\alpha_3 + \alpha_4 \cdot \text{gap}) \cdot \Delta \text{REG}}{(1 - \alpha_0)} = -3.94 \cdot \Delta \text{REG}$

- "Reg" measures the importance of regulation and is constructed with OECD indicators (PMR and specific sectoral indicators)

- We translate the impact of our measure in PMR variation and apply the elasticity found

- Several problems:
  - Dynamic equations with crossed terms effects
  - Average elasticity
  - PMR has two main drawbacks to be an input to estimate macroeconomic impact of a specific reform: i) it doesn’t consider the quality of regulation and ii) it is based on discrete scoring
Assessing productivity gains directly through $\Delta Price$: Cette et al (2014)

- Impact of regulation level on productivity goes through two channels

- **Direct**: fewer incentives to invest and innovate for firms benefiting from those regulations

- **Indirect**: fewer incentives to invest and innovate for firms buying « regulated products » as input (downstream effect)

$$mf\ p_{cit} = \alpha \ DM\ p_{ci(t-1)} + \beta \ DNM\ p_{ci(t-1)} + \gamma \ IM\ p_{ci(t-1)} + \delta \ INM\ p_{ci(t-1)}$$
$$+ \lambda \ JL\ w_{ci}(t-1) + \mu \ JH\ w_{ci}(t-1)$$
$$+ \theta \ mf\ p_{USi(t-1)} + \eta_{c} + \eta_{i} + \eta_{t} + \eta_{ci} + \eta_{ct} + \varepsilon_{cit}$$

<table>
<thead>
<tr>
<th>Direct effect</th>
<th>Indirect effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Price of manufacturing sectors</td>
<td>Price of non-manufacturing sectors</td>
</tr>
<tr>
<td>Price of manufacturing sectors</td>
<td>Price of non-manufacturing sectors</td>
</tr>
<tr>
<td>Effect on productivity of a 1% increase in price</td>
<td></td>
</tr>
<tr>
<td>-0.379</td>
<td>-0.827</td>
</tr>
</tbody>
</table>

Mfp : multifactor productivity
DM, DNM : production price of manufacturing and non manufacturing sectors (log)
IM, INM : average production price of inputs (manuf and non manuf) weighted by their share in the production (log)
### Assessing productivity gains directly through $\Delta$Price

<table>
<thead>
<tr>
<th>Some measures of the « Macron law »</th>
<th>Impact on the price in the sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coach travel services</td>
<td>-0.77%</td>
</tr>
<tr>
<td>Increase power of the Anti-trust authority in the retail trade sector</td>
<td>-0.05%</td>
</tr>
<tr>
<td>Regulated tariffs</td>
<td>-0.37%</td>
</tr>
</tbody>
</table>

- **Increase productivity on all sectors**: +0.22% in the long run
  - directly (+0.09%)
  - and indirectly (+0.13%).

- **A result more plausible than +0.03% with the method through PMR impact**
Pro-competitive reforms and simplification: a significant part of the overall impact of structural reforms in France since 2012

<table>
<thead>
<tr>
<th>Objective</th>
<th>Reforms</th>
<th>Impact on GDP</th>
</tr>
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</table>
| Reducing the cost of labour and enhancing cost competitiveness             | - Tax credit for employment and competitiveness  
- Responsibility and Solidarity Pact                                          | +1.7pp GDP | +2.8pp GDP |
| Simplifying procedures and opening goods and services markets             | - Simplification shock and other simplification measures  
- Consumption Act  
- “Growth and economic activity” bill (deregulating legal occupation and inter-city coach services; increasing the Anti-trust Authority’s powers) | +0.4pp GDP | +0.8pp GDP |
| Energy Transition                                                         | - Draft law for energy transition and green growth                                                                                | +0.8pp GDP | NA |
| Investment and support for innovation                                      | - Creation of a Public Investment Bank (BPI)  
- Second Investment for the Future Programme  
- Additional depreciation for productive investments                          | +0.8pp GDP | +0.2pp GDP (2030) |
| Labour market functioning and industrial relations                        | - Employment Security Act (strengthening the legal security of lay-off procedures)  
- New unemployment insurance agreement (2014 and 2016)  
- Vocational training reform  
- Growth and economic activity bill (reform of labour arbitration; easing of restrictions on Sunday and night trading and simplification lay-off procedures)  
- Bill on modernizing social dialogue                                         | +0.2pp GDP | +0.2pp GDP |
| Assistance and support for people with least access to employment         | - Implementation of “Jobs for the future”  
- Implementation of the “Youth guarantee” training benefit  
- Increased resources for the public employment service for the most vulnerable categories | +0.15pp GDP | NA |
| Modernizing local government                                               | - Territorial reform  
- Creation of metropolitan areas (Evaluation OECD)                                                                                                                                             | +0.3pp GDP | +1.0pp GDP |
| Education reform                                                          | - Creation of 60,000 additional positions  
- Overhaul of priority education; lower secondary education reform...etc.                                                                                                                                  | +0.1pp GDP | +1.0pp GDP |

TOTAL IMPACT on GDP : +4.2pp by 2020