CHANGING MARGINS IN PHARMACEUTICAL DISTRIBUTION: WHO BENEFITS FROM THE NEW SLICING OF THE PIE?
Motivation

• The pharmaceutical sector has been subject to several cost containment measures since 2000

• Most recent ones derive from the Memorandum of Understanding with the Troika

• One the commitments of the Portuguese Government was to change the distribution margins in order to achieve savings of at least 50M€
3.64. Change the calculation of profit margin into a regressive mark-up and a flat fee for wholesale companies and pharmacies on the basis of the experience in other Member States.

The new system should ensure a reduction in public spending on pharmaceuticals and encourage the sales of less expensive pharmaceuticals. The aim is that lower profits will contribute at least EUR 50 million to the reduction in public expense with drugs distribution. [Q4-2011]
MoU – May 2011

3.65. If the new system of calculation of profit margin will not produce the expected savings in the distribution profits, introduce a contribution in the form of an average rebate (pay-back) which will be calculated on the mark-up. The rebate will reduce the mark-up by at least 3 percentage points. The rebate will be collected by the Government on a monthly basis through Centro de Conferência de Facturas, preserving the profitability of small pharmacies in remote areas with low turnover. [Q1 -2012]
The questions

• What was the price reduction in retail distribution?
• What was the impact in pharmacies and wholesalers?
• What was the impact on remote areas, are there more vulnerable regions?
• What was the impact on Government spending with pharmaceuticals?
What was the change?

<table>
<thead>
<tr>
<th>PVA</th>
<th>Pharmacy</th>
<th>Wholesaler</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012</td>
<td>2011</td>
</tr>
<tr>
<td>≤ 5€</td>
<td>27,9%*pva</td>
<td></td>
</tr>
<tr>
<td>5€ &lt; pva ≤ 7€</td>
<td>25,7%*pv+,11€</td>
<td>10,85%*pva</td>
</tr>
<tr>
<td>7€ &lt; pva &lt; 10€</td>
<td>24,4%*pva+0,20€</td>
<td>10,60%*pva</td>
</tr>
<tr>
<td>10€ &lt; pva &lt; 20€</td>
<td>21,9%*pva+,45€</td>
<td>10%*pva</td>
</tr>
<tr>
<td>20€ &lt; pva &lt; 50€</td>
<td>18,4%*pva+1,15€</td>
<td>9,2%*pva</td>
</tr>
<tr>
<td>50 &lt; pva</td>
<td>10,35 €</td>
<td></td>
</tr>
</tbody>
</table>
How to provide an answer?

• Sample of 352 pharmacies, stratified sample, keeping pharmacy anonymity, real individual transactions – January to May 2012 vs January to May 2011 – 33 million transactions

• Objective: compute the effect of change in the margins of distribution; get an estimate for the full year of 2012
Main results (highlight)

- Estimate of impact:
  - pharmacies: -54 million euros
  - wholesalers: -21 million euros
  - NHS: -49.6 million euros
  - Population: -23.9 million euros
How to get the estimates?

• Not all changes are due change in margins.
• All price reductions mean a decrease in distribution margins
• Need to specify which price to use to measure the change in margins (initial prices vs final prices)
How to get the estimates?

- Remove from sample
  - Errors
  - Returned products
  - Adjust database for repetition of registers when more than one “insurer” pays
  - Not all products sold by pharmacies have regulated margins – just the prescription-only pharmaceutical products
How to get the estimates?

• Quantities and prices of 2012 with new margins
  – Obtain pre-margin price
  – Apply to pre-margin price the margin rules of 2011, getting the counterfactual price
  – Compare margins for the pre-margin price, difference is the savings
  – Using 2012 prices means using prices after all other changes; it underestimates the impact
How to get the estimates?

- Need to take into account that real sales occur under the running down stock at previous prices
- This seems to occur relatively fast for major products
- Needs to assume something about price elasticity - first approximation use zero elasticity
• Percent change in margin across products sold in the first five months by pharmacy

• Average margin value decrease: 14%
Average price per day

Red line-margin effect

Measure in lower price or at initial price (Jan?)
Is this a problem to pharmacies?

• Can the sales of other products compensate?
• (either selling more of other products, or increasing their margins)
• Analysis at the pharmacy level
• Check whether sales of other products increased more in pharmacies with higher (percent) loss in margins of prescription products
• Bars: absolute change in margins of other products
• Line – absolute change in regulated margins (prescription)
• Room for compensation effects seems small
Can other sales compensate?

- The intuition from figure is confirmed by regression analysis
- Simple version: dependent variable = sales of other products; independent variable of interest: loss in margins of regulated prices of pharmaceuticals
- Compensation: coefficient should be negative
- Results: either zero or positive
Geographic incidence

• Are regions affected differently – vulnerable locations?

• Looking at location and average reduction in margins, the effect is widespread

• Although some pharmacies may be less affected, in all areas across the country there are pharmacies with strong impact
Conclusions:

• The value of the margin reduction attained in Portuguese pharmacies alone exceeds the MoU target for the pharmaceutical sector as a whole.

• There is no room for compensation of the margin loss with sales of products whose margin is not regulated.

• Finally, pharmacies in all regions of the country are negatively affected by this policy.