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Who pays commodity taxes ?

Evidence from French reforms, 1987-1999

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Figure 3: Housing repair service prices around September 1999 tax reform, long time series

The continuous curve is the INSEE price index - base 100 : 1998 - for housing repair services.
The discontinuous curve is the INSEE price index - base 100 : 1998 - for everything except housing repair services.
September 1st 1999, the VAT tax rate on housing repair services went down from the full-rate of 20.6% to the reduced-rate of 5.5%.
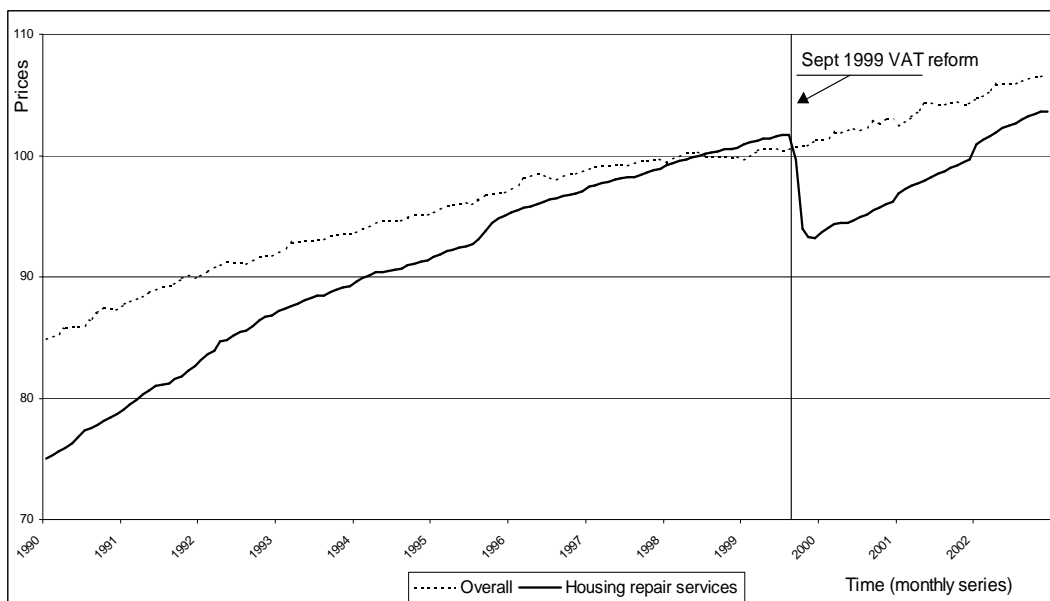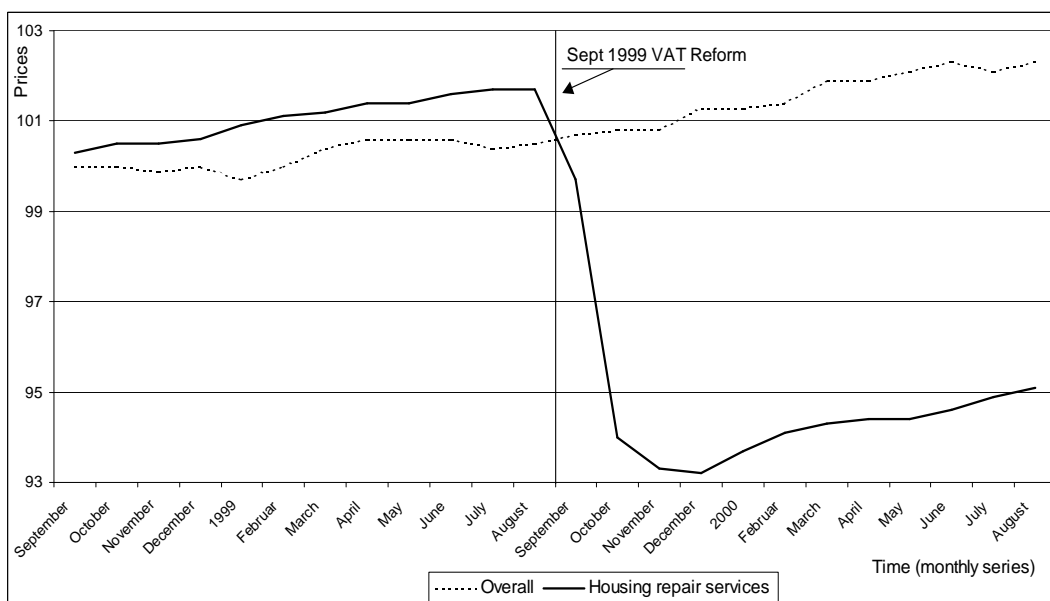

Figure 4: Housing repair service prices around September 1999 tax reform, short time series

The continuous curve is the INSEE price index - base 100 : 1998 - for housing repair services.
The discontinuous curve is the INSEE price index - base 100 : 1998 - for everything except housing repair services.
September 1st 1999, the VAT tax rate on housing repair services went down from the full-rate of 20.6% to the reduced-rate of 5.5%.

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These regressions are implemented for both the new car market around 1987 and the housing repair market around 1999. The regressions take into account the three years around the reforms. Results are compiled in table 2.

	(1) Housing repair services	(2) New car sales
Number of observations	36	36
R^2	99%	67%
VAT rate shifting during the 1st month (α_1)	0.169***	0.173***
	(0.009)	(0.043)
VAT rate shifting during the 2nd month (α_2)	0.472***	0.272***
	(0.009)	(0.045)
VAT rate shifting during the 3rd month (α_3)	0.072***	0.025
	(0.009)	(0.044)
VAT rate shifting during the 4th month (α_4)	0.024***	0.032
	(0.009)	(0.044)
Consumer share$^+$	**77%*****	**52%*****
	(2%)	(6%)

Table 2: Consumer share measures

This table presents the results of the regressions of housing repair service prices in the one hand and of new car sale prices in the other hand, on VAT rate changes.

*** : 1% significant

+ : Calculated as the sum of the coefficients until the last significant, according to equation (11)

As it appears from figure 2 and figure 4, results are very sharp and the tax rate variations explain the main part of the price variations. The R^2 of these regressions are therefore very high : 99% for the housing repair services and 67% for new car sales.

In addition, these results are very significant (1% significant). The standard errors are very small and so the measures of the consumer shares are very sharp. The values themselves - and not only their signs - are meaningful.

A first result is the very rapid rate of tax shifting. For both goods, taxes shifted almost entirely during the first two months following the reforms. The ratio between tax shifting during the first two months and tax shifting during the two following months is 7.8 for the 1987 reform on new car sales and 6.7 for the 1999 reform on housing repair services.

Because of the small standard errors, the difference between the two measures is also significant. The difference between consumer shares in the housing repair service market and in the new car sales market is 25%, with a standard error lower than 7%. The difference between the two tax shiftings is then 1% significantly positive.