

# Monitoring and understanding real estate developments in Italy: statistical progresses and challenges

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- 1) Increasing demand for statistics on the real property markets
- 2) Comparing non-residential and residential properties
  - i) rationale for the economic analysis
  - ii) statistical achievements so far
- 3) Focusing on Italy: understanding trends in the residential market
- 4) More on the commercial property
  - a generally unsatisfying statistical picture
  - developing a quarterly price indicator in Italy

# 1. Demand for statistics on the real estate market



Understanding developments in real property markets are crucial in economic analysis (and monetary policy decisions) for various reasons:

- 1) changes in house prices affect the business cycle through their impact on
  - (a) households' wealth and in turn on consumption behaviour
  - (b) residential investments;
  - (c) dynamic feedback with financial markets
- 2) sharp price fluctuations impact on the conditions for financial stability (credit quality, value of collateral, cost of funding)
- 3) the smooth functioning of the housing market affects important aspect of social life (house affordability, family planning, labour mobility)

An increasing body of empirical analysis actually shows that real property markets may contribute to the size and propagation of shocks that hit the economy, also by enhancing at the domestic and international level the interaction between the financial and real side of the economy

The financial crisis confirms the importance of investing in reliable, complete and (possibly) harmonized statistics on the real property markets

# 1. Demand for statistics on the real estate market /2



Looking closer into the real estate, residential and non-residential markets need to be separately monitored as:

they share the key role to provide collateral for borrowing

BUT

they provide different cyclical and policy implications due to:

- 1) (dynamic) granularity is more pronounced in the non-residential than in the residential market with more complex impact as for the statistical demand, macro economic analysis and policy management
- 2) non-residential property is more affected by general economic conditions as:
  - i) unlike residential property, which receives an intrinsic reservation value from the households' utility, the price of commercial property is mostly determined by the value of future returns
  - ii) banks play a larger role in the financing of commercial than the residential units, as they lend for the purchase of land for development and existing buildings, they finance construction projects; they lend non-financial firms based on real estate collateral, the cross border holding larger for commercial than residential assets

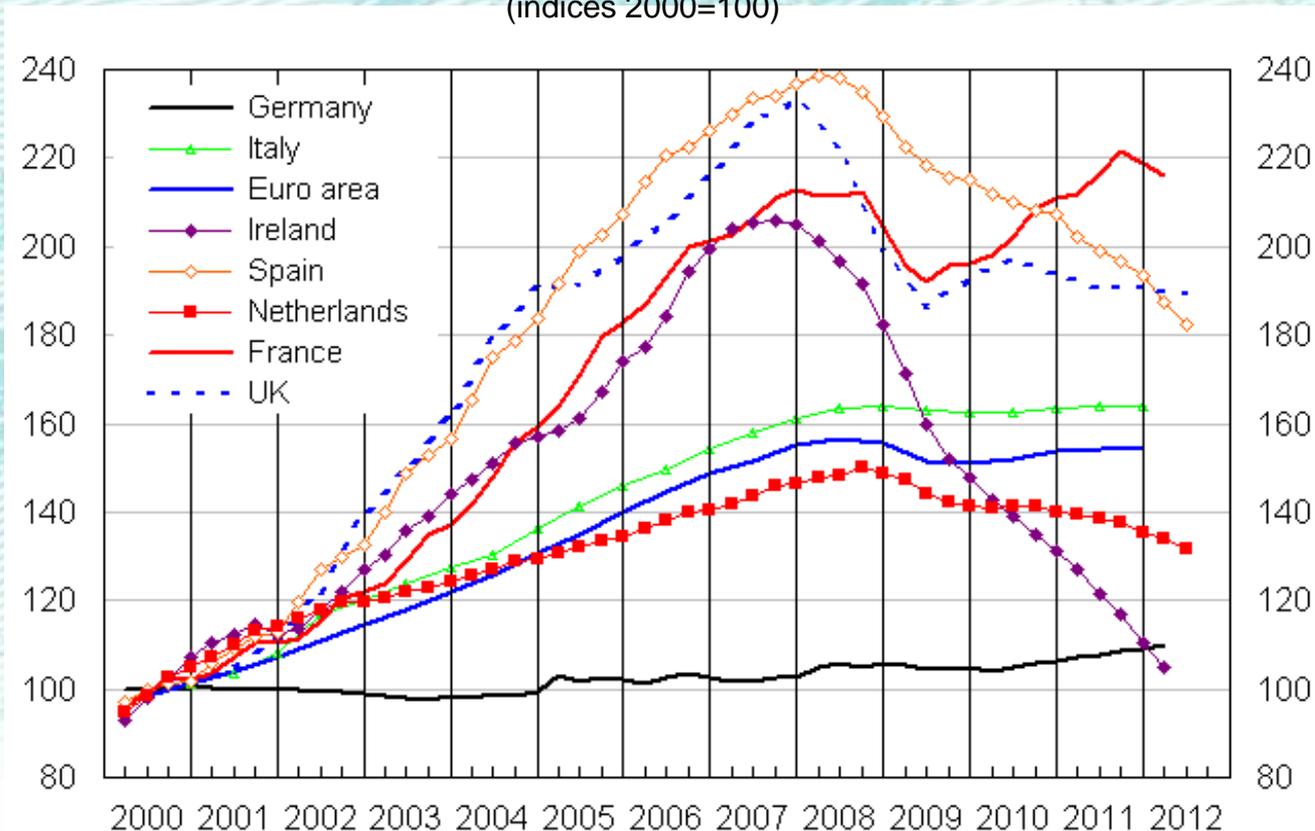
## 2. The housing market: important statistical achievements



In the last ten years the statistical picture of the housing market has been progressively improving **in Europe**....(even at a slower pace than needed and with remaining large discrepancies in data quality across countries)

### House price developments

(indices 2000=100)

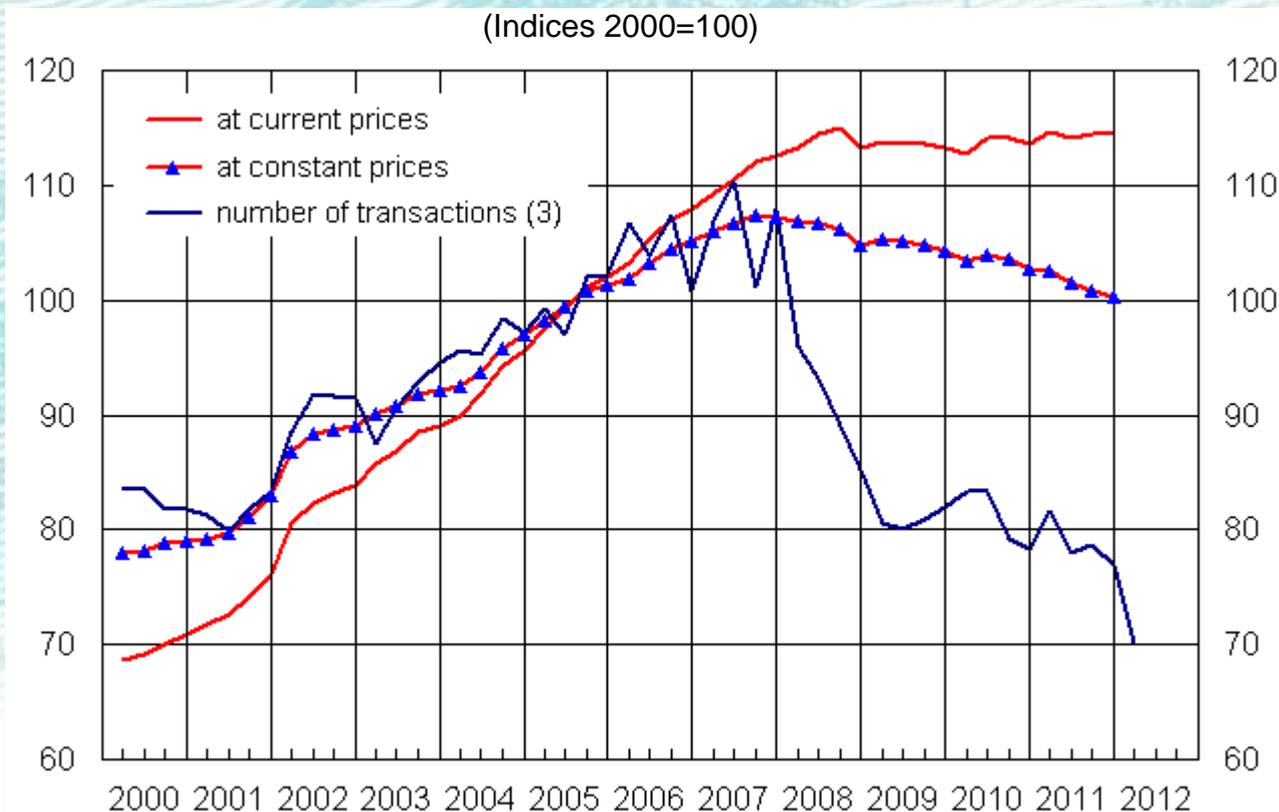


## 2. The housing market: important statistical achievements /2



...and **in Italy**, as price and volume indicators are currently available (together with a few additional cyclical and structural data such as building permits, new house completions, market turnover) although further steps to be still achieved in quality and timeliness

### Housing market in Italy



### 3. Understanding trends in the Italian housing market



#### A STRUCTURAL SYSTEM FOR HOUSING AND BANKING IN ITALY

$$\begin{array}{l} \text{i) housing market} \\ \left\{ \begin{array}{l} \text{D: House prices} = f [\text{income (+), rent(+), mortgages(+), demo(+), house stock (-)}] \\ \text{S: Investment} = g [\text{build. cost(-), house prices (+), loans (+), i(-), surface (-)}] \end{array} \right. \\ \\ \text{ii) mortgage market} \\ \left\{ \begin{array}{l} \text{D: Mortgages} = m [\text{house prices(+), income(+,-), wealth(+,-), mortgage cost(-)}] \\ \text{S: Mortgage cost} = n [\text{funding cost (+), bank profits (-), bank capital (+,-), house prices (-) wealth (-)}] \end{array} \right. \\ \\ \text{iii) loan market} \\ \left\{ \begin{array}{l} \text{D: Loans} = v [\text{firms borrowing require.(+), build. cost (+), inv(+), loan cost (-)}] \\ \text{S: Loan cost} = z [\text{funding cost (+), bank profit(-), bank capital (+,-), firms' profits(-), house prices (-)}] \end{array} \right. \end{array}$$

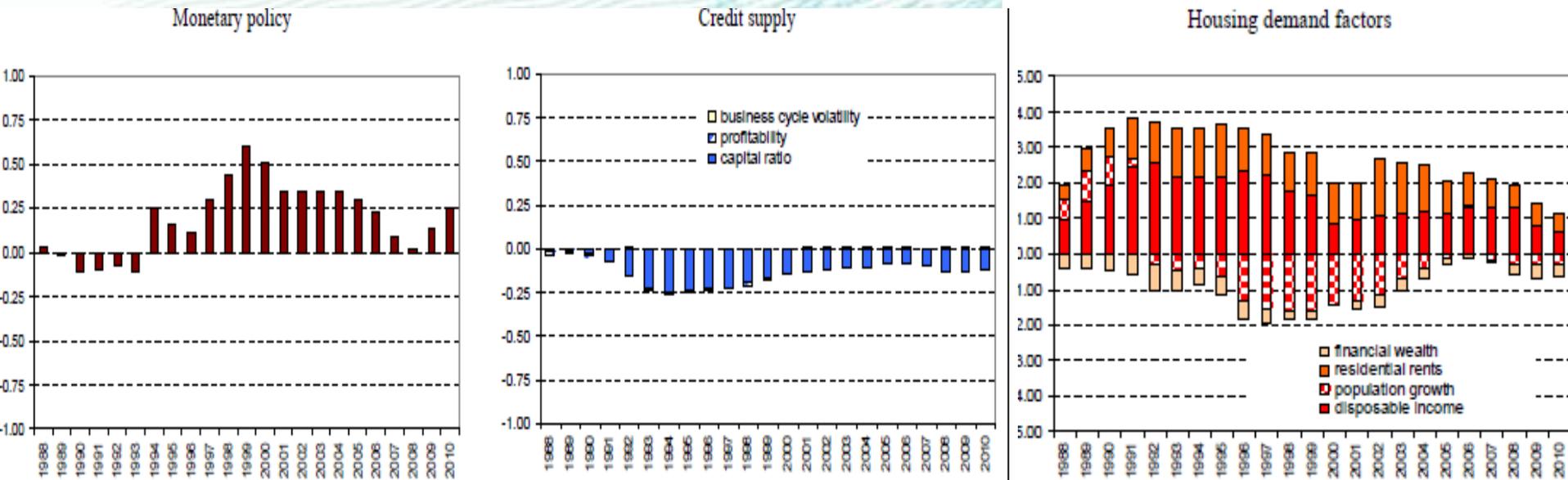
Huge statistical requirement to estimate six equations (endogenous), using a list of exogenous drivers (including candidate determinants of credit supply); quarterly data over the period 1986\_Q1-2010\_Q4

# 3. Understanding trends in the Italian housing market /2



## HISTORICAL DECOMPOSITION OF HOUSE PRICE GROWTH IN ITALY

(percentage points; yearly averages)



Source: Nobili-Zollino (2011) *A structural model for the housing and credit market in Italy* Bank of Italy, mimeo

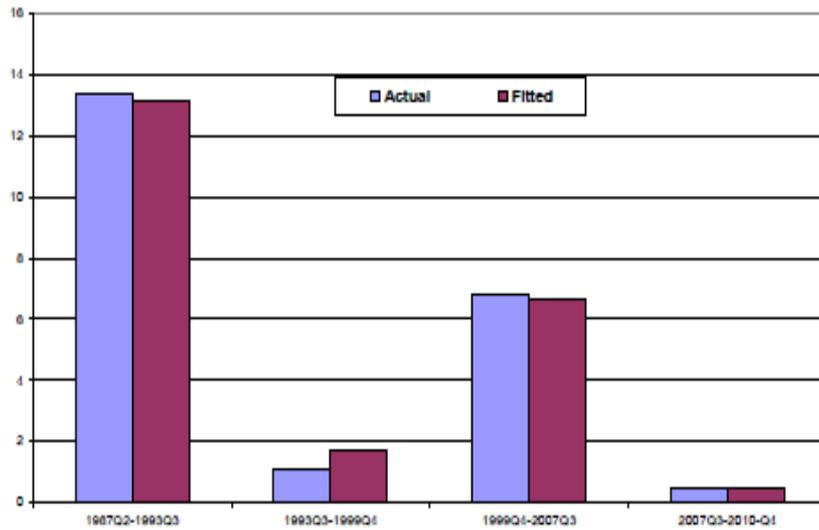
House prices mostly react to disposable income, residential rents and demography; lending conditions (policy rate and banks' balance sheets) also exert a significant impact, especially through their effects on mortgages flows, and consequently on house demand.

During the financial crisis a deterioration in credit supply conditions, related to the banks' balance sheet positions, has dampened house price dynamics, partly offsetting the positive stimulus provided by the easing in the monetary stance.

### 3. Understanding trends in the Italian housing market /3

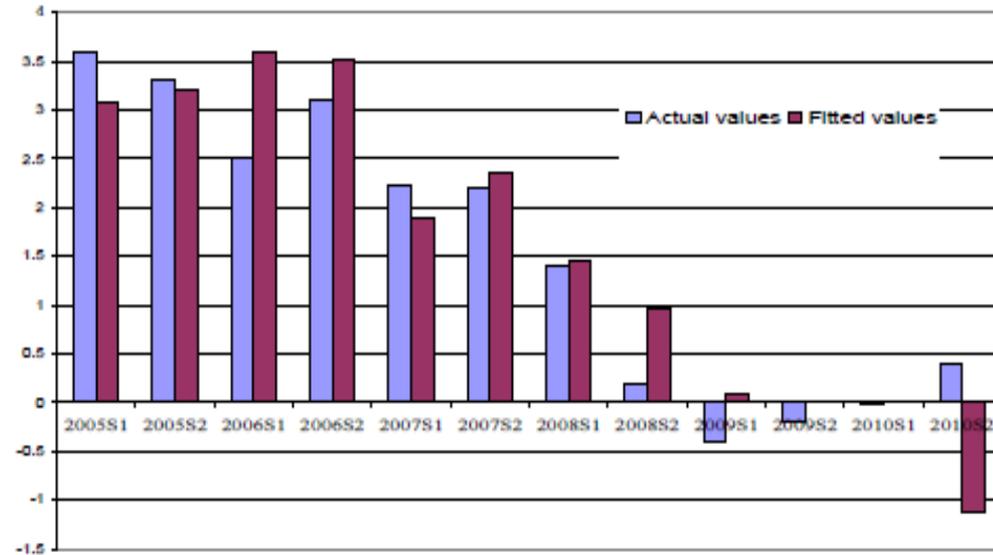
HOUSE PRICES IN RECENT CYCLES

(current values; annualised average changes in reference periods)



HOUSE PRICES AROUND THE FINANCIAL CRISIS

A. Yearly changes in nominal values



Econometric evidence shows negligible misalignments of house prices over the two cycles prior to the financial crisis

During the crisis house price dynamics first lost momentum more severely than implied by fundamentals, and resumed a positive change in the end of 2010 despite main drivers kept deteriorating: the picture as a whole confirms balanced.

## 4. The real commercial property: largely unsatisfying picture



Despite the increasing importance in the theoretical debate, empirical analysis of real commercial property trends and their impact on the overall macroeconomic and policy setting is generally scarce due to the limited availability of data

The statistical uncertainty surrounding the real commercial property is much deeper compared with the residential market

- i) controversial delineation of included properties
- ii) changing coverage across countries of the scarce data currently about price indices, the number of transactions and the stock size
- iii) most price indicators currently available are based on a valuation approach (or deliver an estimate of the asset value coherent with equilibrium finance models), proving heterogeneous across countries in coverage, methods and the reference regulatory frameworks

In this framework increasing the use of price indicators of the commercial property has been included in the 20 recommendations listed in a joint report by the Financial Stability Board and the IMF to the G20 (2009), in order to enhance the ability to assess the world cyclical developments and financial stability. 10

## 4. The real commercial property: largely unsatisfying picture/2



Ideally, the indicators based on actual prices paid in transactions would closely match the users requirements regarding the analysis of the commercial property

(timely detection in turning points, control for granularity, no bias due to discrepancy in asset value and market price)

BUT

their compilation currently proves very challenging from the producers' standpoint due to the lack of basic information.

This calls for an urgent investigation about all candidate sources of data, primarily in administrative domain, in order to pave the way for an early compilation of transaction based price indicators.

## 5a. Main features of non residential market in Italy

### Stock and transactions of construction units in Italy - 2011

(thousands of units where not otherwise specified)

<i>Destination of use</i>	<i>Stock</i>	<i>% shares</i>	<i>Transactions</i>	<i>% shares</i>	<i>Turnover</i>
	(A)		(B)		(B/A)
<b>Residential</b>	33,174	52.7	598	45.3	1.8%
<b>Box, cellars and others</b>	22,196	35.3	477	36.1	2.1%
<b>Office</b>	652	1.0	14	1.1	2.1%
<b>Retail</b>	2,800	4.4	35	2.6	1.2%
<b>Industrial</b>	702	1.1	12	0.9	1.8%
<b>Not else classified</b>	3,415	5.4	194	14.7	5.4%
<b>Total</b>	<b>62,939</b>	<b>100</b>	<b>1,321</b>	<b>100</b>	<b>2.1%</b>

In 2011 construction units in the Office, Retail and Industrial markets stood for 7% of total stock and 4.7% of total transactions (respectively against 88% and 81% for dwellings+box, cellars and others).

The turnover index (transactions to stock ratio) was relatively higher for the Office units than for the Industrial and Retail ones; for the three types the index averaged 1.7% (almost 2% in Residential + box, cellars and others).

## 5b. Data sources on commercial property market in Italy

- ✓ No official data currently available.
- ✓ Three main sources of data on commercial property prices:
  - two private research institutes (*Nomisma* and *Scenari Immobiliari*)
  - a government agency (*Agenzia del Territorio*) jointly with *Assilea*
- ✓ All of them follow a transaction based approach, but with heterogeneous methods
- ✓ ***Nomisma*** collects data directly from a sample of real estate agencies across 13 large municipalities and 13 intermediate ones; data start in the early nineties and are released semi-annually with a one-month delay for both Retail and Office
- ✓ ***Scenari Immobiliari*** estimates prices based on public advertisements by assuming that property is sold when it ceases to be offered; data are released monthly with one-month delay, and cover years since middle nineties and virtually all main cities; they are publicly available for the sole total commercial property.
- ✓ ***Agenzia del Territorio*** (jointly with *Assilea*) collects data from individual transactions covering all the country but only 20% of the total estimated turn-over. Data refer to Retail, Office and Industrial units in isolation; they are released yearly with 5 months delay for periods since 2007 and for main locations and the whole country, micro data are also provided in a semi-annual frequency since S1-2003.

## 5c. Computing a quarterly indicator for commercial property prices in Italy

Desired properties:

- i) representativeness of country-wide trends
- ii) clear delineation of targeted markets
- iii) high reliability and accountability
- iv) good time coverage
- v) high frequency and timeliness

Our computation strategy :

starting from the annual data from *Agenzia del Territorio-Assilea* (AdT henceforth) as they match properties i) to iii); then exploiting alternative sources to approach properties iv) and v)

### AdT Classification of the commercial property

	Office		Retail			Industrial
Unit type	Offices	Banks	Shops	Commerc. Departments	Hotels	Sheds
Catastal codes	A10	D5	C1 and C3	D8	D2	D1 and D7

## 5c. Computing a quarterly indicator for commercial property prices in Italy /2

**First step:** aggregate individual data released by AdT at the semiannual frequency to repolate annual data from 2007 back to 2003; retrieve semiannual data for the whole country, covering Office, Retail, Industry and Total (weighted average over the three) since S1\_2003.

**Second step:** repolate semiannual data from S1\_2003 back to S1\_1995 based on trend of *Nomisma* data; retrieve a long series of semiannual data for the whole country and the Office, Retail and Total non residential units.

**Third step:** obtain a quarterly indicator of commercial prices through temporal disaggregation of semiannual series based on Istat data for construction costs and Scenari Immobiliari data for prices of non-residential property; indicators refer to Office, Retail and Total units since Q1\_1995 (Industry data starts in Q1\_2003)

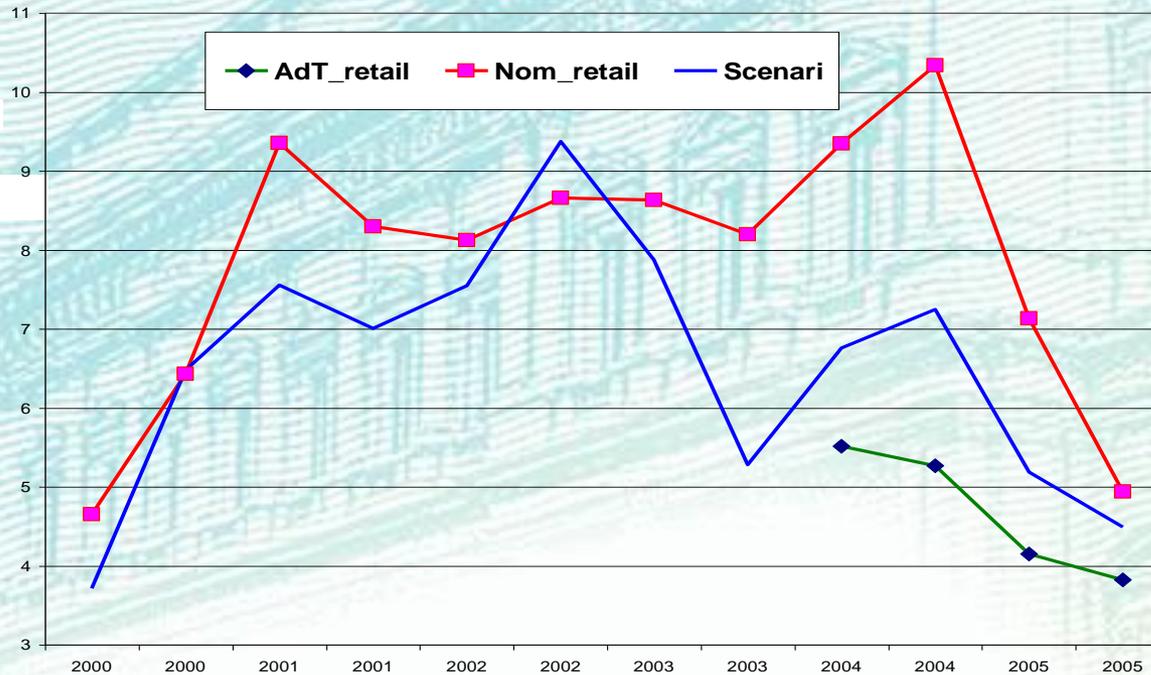
**Final result:** semi-annual price indicators for Office, Retail and Total commercial assets since S1\_1995; a quarterly indicator for the Total since Q1\_1995, all based on a transaction approach

*Caveat 1* - All indicators refer to the whole country, thus missing the (dynamic) granularity of the commercial property market.

## 5c. Computing a quarterly indicator for commercial property prices in Italy /3

*Caveat 2* – Due to heterogeneous quality, trend in the source data may differ (not dramatically!), thus risk affecting the reliability of both the retropolation and the temporal disaggregation used in the computation strategy

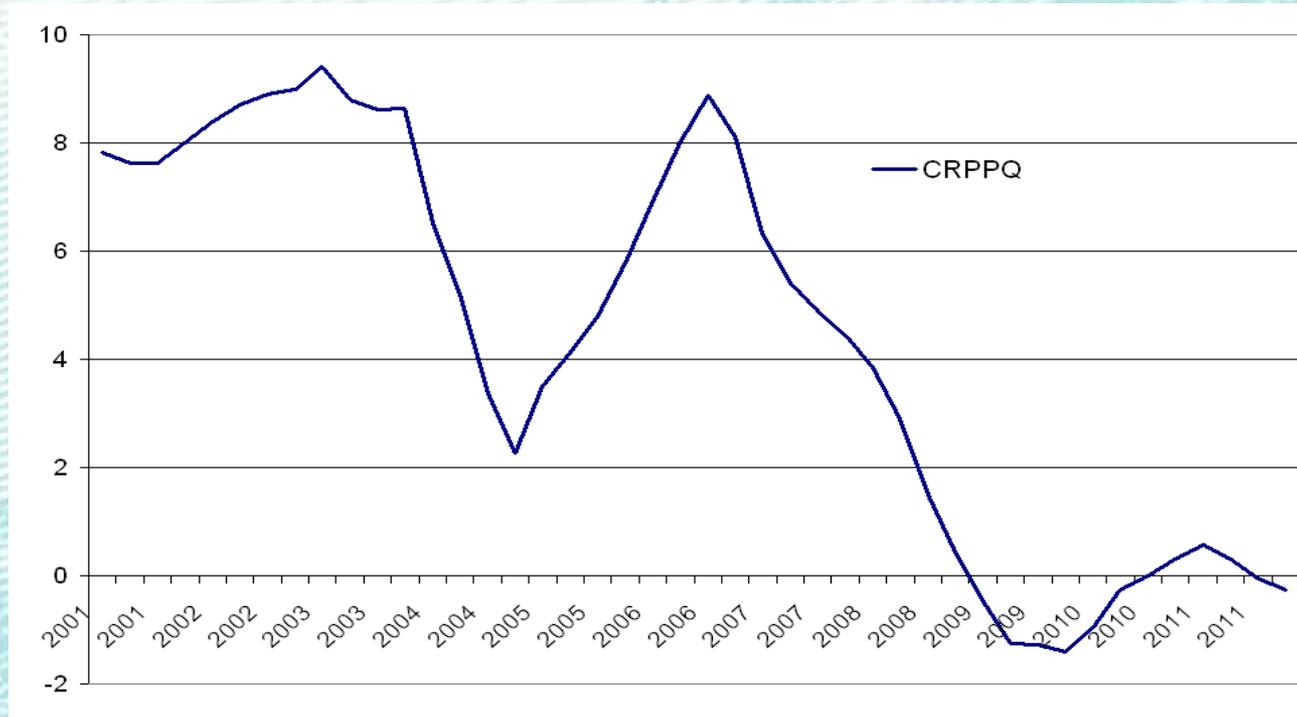
### Example: Price Indicators for Retail Units (Total for Scenari Immobiliari) (% changes y-o-y)



# 5d. Preliminary results for a quarterly indicator for commercial property prices in Italy

## A quarterly indicator for commercial property prices in Italy

(Total non residential market; % changes y-o-y)

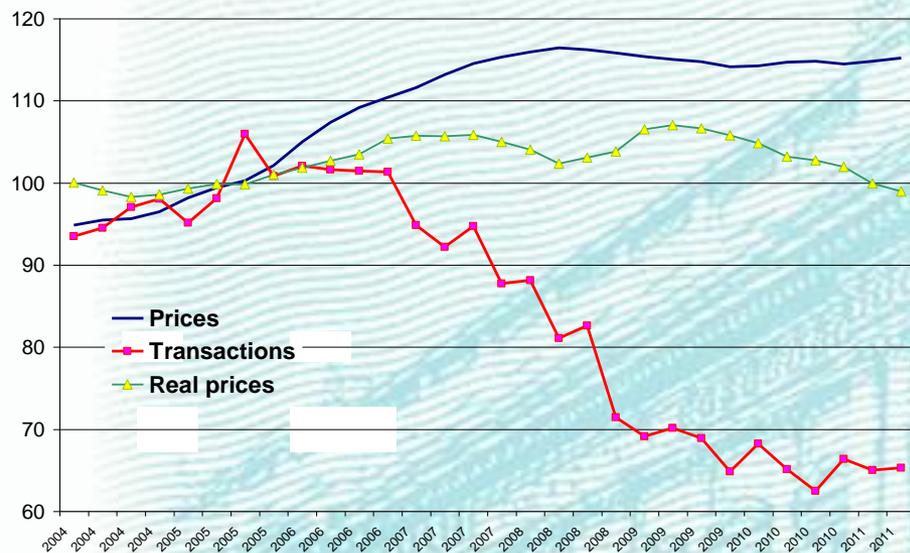


Yearly growth rate of commercial property prices in Italy went briskly down after peaking in late 2006, and turned negative as the financial crisis deepened (-1.5% in Q4\_2009).

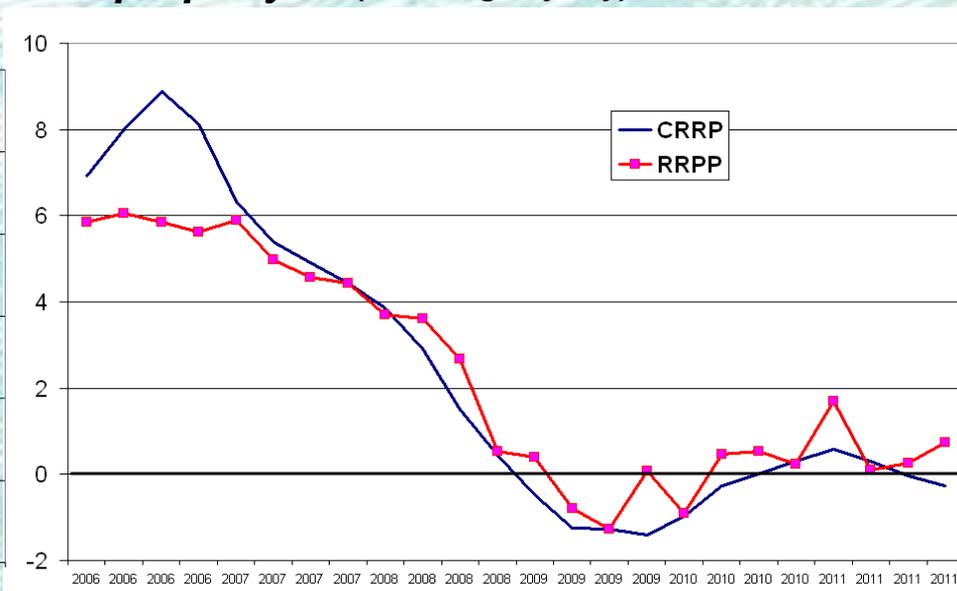
Following some improvement over 2010, commercial prices resumed a negative trend since the middle of the last year.

# 5d. Preliminary results for a quarterly indicator for commercial property prices in Italy / 2

**Prices and transactions on commercial property market** (Indices 2005=100)



**Prices of the commercial and residential property** (% changes y-o-y)



As in the residential market, commercial property prices in Italy would show downward rigidity to adjust to a declining number of transactions; however the decrease in commercial prices proves more pronounced and prolonged in real term .

Both the accelerating phase in the mid 2000s and the declining one in late 2000s appear more pronounced for commercial than for residential property prices, signalling a higher sensitivity to changes in the economic climate in line with the literature