

Real Estate Development for a changing user market

- the Dutch context -

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Abstract

The recent collapse of the non-residential real estate development & construction market rises the question, what the future demand will be for real estate space and how these will influence future development activities.

The aim of this research is to provide a framework for stock-flow analysis and forecasting of real estate development (macro, per sector and per property type, such as office, industrial, commercial, health care, school and public buildings).

The economic approach of investment for expansion of the space stock is based on the growth of production by the observed economic sectors and on the growth of the economy as a whole (GDP). This is confronted with analysis of the physical growth of a sectoral stock (in square meters or otherwise), as production and accommodation capacity. Moreover with the growth of the use of the stock (such as employees in offices, scholars in schools and so on).

Additionally future investment for renewal of the building stock depends on the life time structure of the present building stock and the capability of this stock to meet contemporary requirements (after refurbishment).

Topical problems in The Netherlands are a high vacancy and underutilization of offices and of other buildings and business complexes. Re-use and transformation activities are limited.

The agrarian, industrial and logistical sector tend to a high replacement activity, with relocation and spatial concentration. Consequently this leads to high disinvestment and disposal of buildings which cannot meet contemporary technological, economic and environmental standards.

Generally, the (trend of) new development for expansion and replacement of the building stock is slightly downward. An exception is the health sector, with a growing shortage of facilities for an ageing population. Unfortunately, development activity for the health care and the non-profit sector will be limited by financial conditions.

Keywords: real estate development, user market, space market, building stock, stock-flow analysis, forecasting, non-residential property market

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- Sectoral differences in terms of demand for new buildings, sectoral growth and of expansion, modernisation, replacement and disinvestment of the building stock
- Conclusions, in relation to future real estate development.

Focus and objective

Analysis and forecasts of non-residential real estate development suffer from a lack of integral statistical observation. This limits the applicability in market analysis, (spatial) planning and forecasting of building activity. Aim of this research is to obtain on macro and sectoral level more insight in the need for expansion and renewal of the building stock in the coming decade.

The economic analysis of capital formation in buildings (expressed in euro's) will be combined with functional based analysis of the development of the sectoral stock in use (in square meters floor space).

Rise and decline of real estate development

The need for more property -for extension of the building stock- is driven by a combination of population growth and economic growth. Especially in the sixties the annual investment in residential and non-residential building grew rapidly. After a first top in the early seventies non-residential building investment had a cyclical loop, with a most severe dip in the early eighties and historic top levels in 2001 and 2008. These peaks will be analysed further on.



Figure 1: Polder town Almere

In the early 21st century population growth and economic growth are weakening and the buildings -originating from the sixties and seventies- are already object of investment for renewal. The social economic context of building activity has completely changed since the sixties. After 2008 these structural shifts are overshadowed by a collapse of building activity in reaction on the financial and economic crisis. This complicates the forecasting of real estate development in the short and long run. Consequently we have to pay attention to the impact of the crisis on real estate development.

Impact of the crisis

The financial and economic crisis led up to a decline of economic growth. In The Netherlands the collapse of GDP-growth is without precedent in the post-war period; from 3,5% GDP-growth in 2007 to nearly 4% GDP-shrinkage in 2009.

This meant that the demand on the space market (by end-users) would decline and that investment expansion and replacement of the building stock would be postponed.

Funding also became problematic:

- Loss of equity leads for firms (users), investors, banks and developers to less financial capacity to invest.
- Loss of solvency and shrinking benefits of debt finance at the same time urge for deleveraged finance of investment, instead of using the common leverage effect of debt finance.
- The budget deficit of the central government and local authorities became higher and debt and financial risks exploded in the government sector.
- Generally the risks of development and operation of real estate are now higher and the financial sector became reserved in its willingness to finance investment in buildings.

Macro perspective 1995-2010-2025

Since 2000 vacancy and under-utilisation of the building stock are growing, this is heavily influenced by a high building activity in combination with low elimination. In 2010 we value the "problem stock" at circa 100 million square meters gross floor space (offices, shopping, glasshouses, stables, industrial and commercial plants, public buildings etc.). These "problem stock" is to some extent object of adaptation and transformation, otherwise of disinvestment and of elimination in the long run.

The general over-supply of buildings limits the need for new building activity in times of crisis.

The collapse of Dutch GDP-growth from 3,5% growth in 2007 to nearly 4% shrinkage of GDP in 2009 was in the post-war period unprecedented. The consequence was a strong decline of investment in buildings in following years, as rendered in the following graph of "Investment in buildings 1995-2025".

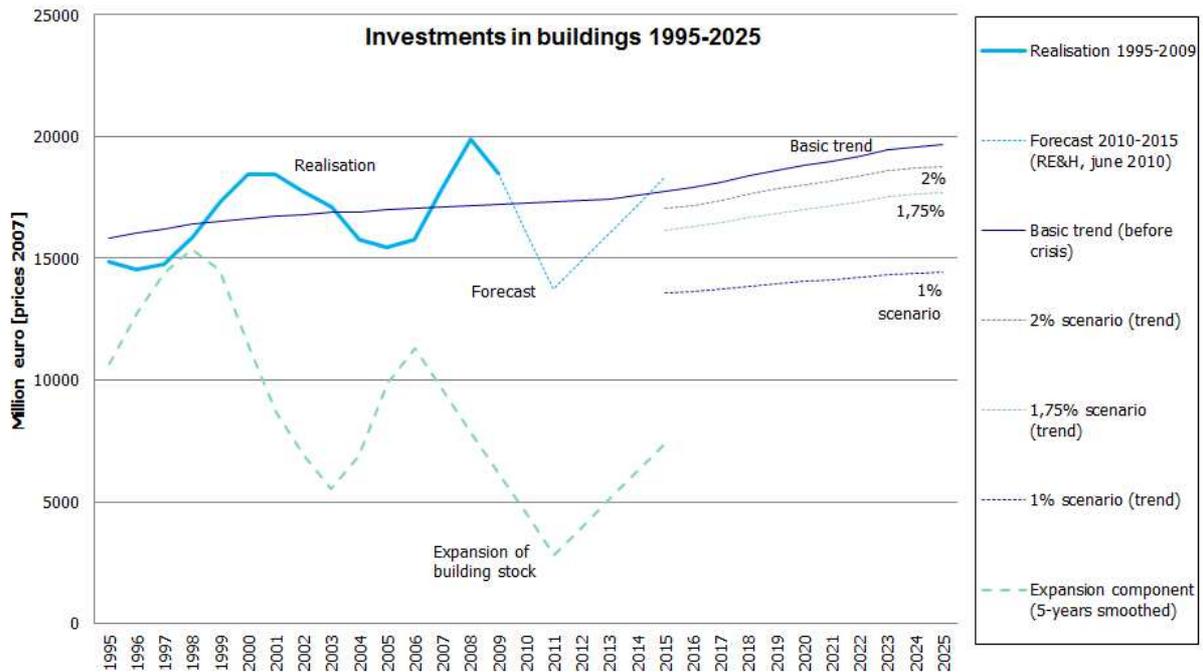


Figure 2: Investments in buildings 1995-2025

A lower dotted line renders the need for expansion of the building stock, related to realised GDP-growth in 1995-2010 in combination with a 2% scenario in 2011 and later on.

The economic potential from before 2008 will not be restored. The trend of the future investment in expansion and renewal of the building stock is slightly upward on a lower level.

The long run perspective 2010-2025 is:

- Structural economic growth will become lower.
- Lower investment for expansion of the building stock.
- Growing investment for replacement and modernisation of existing stock: due to functional, technological and economic obsolescence.
- The funding of investment in buildings strongly depends on the discounted cash flow of operation public and corporate real estate.

Drop in demand for new buildings

The economic shrinkage in 2009 in all market sectors accelerated to a heavy drop in demand for new buildings, registered as square meters gross floor area in building permits for new buildings.

| <i>Market sector</i> | <i>Sectoral economic growth 2008-2009</i> | <i>Gross Floor Area of building permits for new buildings 2008-2010</i> |
|-----------------------------|---|---|
| Agriculture | +3% | Glasshouses -81% Barns & Sheds -8% |
| Industry | -7% | Industrial & commercial buildings & warehouses -64% |
| Trade, Hotels and Catering | -7% | Shopping stores -79% |
| Transport and Communication | -5,5% | Other buildings market sector -37% |
| Fin. and Business services | -3% | Offices -64% |
| Education | +1,5% | Schools -47% |
| Government | | Offices +121% |
| Healthcare | +2,5% | Other buildings +8% |
| Non-profit services | | |
| Total of all sectors | -3,5% | -49% |

Figure 3: Drop in demand for new buildings. Source: CBS

Growth of demand was registered in the public sector, where a lot of (office) building came out of the planning pipe line. Total demand for new buildings -for the market and public sectors together- became the half (-49%). For a better understanding of the collapse we need more insight in the long run development of the stock in use and the dependent expansion of the building stock. The growth of the stock in use is for each type of buildings based on the most relevant indicator.

| | <i>Stock in use ultimo 2005 (m² GFA)</i> | <i>Building permits 2005-2010 (m² GFA)</i> | <i>To fulfil demand for expansion</i> |
|--|---|---|---|
| Glass houses | 105 mln | 21 mln | 8 mln m ² extension of area vegetables & fruit |
| Barns and Sheds | 70 mln | 16 mln | 8 mln m ² for growth live stock |
| Industrial and Commercial Buildings and Warehouses | 170 mln | 28 mln | 11 mln m ² related to growth of production |
| Shopping stores | 26 mln | 1 mln | 1 mln m ² GFA |
| Other Buildings Market Sector | 24 mln | 5 mln | 2 mln m ² related to growth of production |
| Offices | 58 mln | 6 mln | 4 mln m ² related to growth stock in use |
| Other buildings public sector | 62 mln | 9 mln | 4 mln m ² related to employment growth |
| Schools | 20 mln | 4 mln | 1 mln m ² related to employment growth |
| All building types | 535 mln | 90 mln | 39 mln m² in total |

Available for replacement: 6,5 mln m²/year

Figure 4: Expansion of the building stock. Source: CBS

The agricultural statistics provide for physical data about (the growth of the) horticultural area in use and of the live stock. These data are converted into square meters to fulfil the demand for expansion of the stock of agricultural buildings (glass houses c.q. barns and sheds). The stock in use ultimo 2005 is copied from former research (Soeter, 2010).

For industrial and commercial buildings and warehouses the growth of the stock in use 2005-2010 is based on the weighted growth of production 2004-2009 (gross added value) by the constitutional sectors. The same procedure is used for other buildings market sector.

All building permits for shopping stores are considered to fulfil the need for expansion of the shopping area. Here we see that the developers adapted their new initiatives to changing market conditions in combination with high vacancy.

To some extent the same happens in the office sector (next scheme). Here the growth of the stock in use, as registered for the commercial office sector (Bak, 2008; EIB, 2010; DTZ, 2011), is heightened up to compensate for non-commercial office development, underregistration and for gross floor area measurement instead of lettable floor area).

For schools and other public buildings the growth of employment is decisive for employment growth. Further on the forecasting of the investment in buildings for the health sector will be based on demographic growth of the aged population.

Generally, the gross floor area in building permits 2005-2010 is 2 to 2,5-fold of what is needed for expansion of the sectoral stock. In combination with growing vacancy and disinvestment this tends to over-building and over-forecasting of building activity in the future.

Square meter construction statistics are only available in relation to building permits. Though we have to return to sectoral investments in buildings and measurement in constant euro's, in order to continue our analysis.

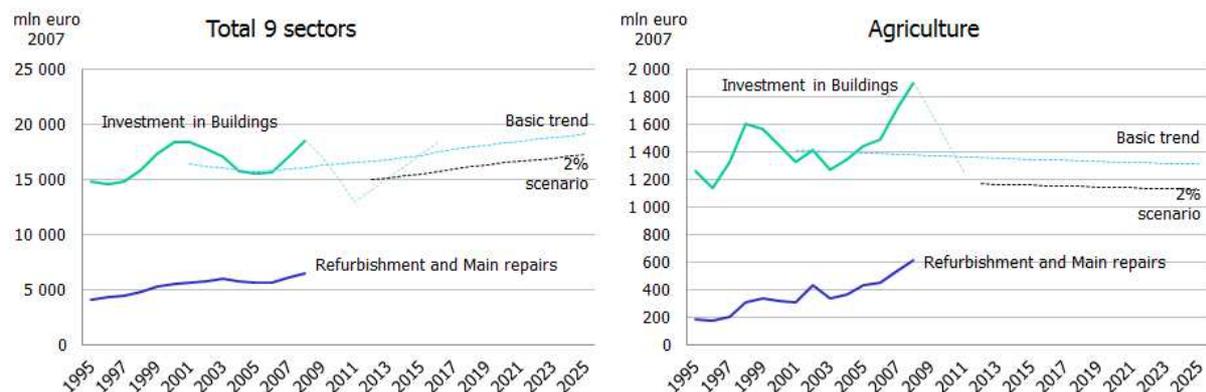


Figure 5: 9 sectors: from agro to non-profit. (Soeter, 2010)

The graph "Total 9 sectors" corresponds with the graph Investment in buildings 1995-2025 before. The lowest line renders now the realised investment in refurbishment and main repairs, which grows.

After the Total 9 sectors follow the nine economic sectors, from agro to non-profit, in case of a 2% scenario for future GDP-growth.

Agriculture

This sector tends to zero-growth (+/-) of the live stock and of "grow under glass". Growing investments in refurbishment and main repairs have connection with higher (environmental) standards. Most investment in new buildings is for replacement, in combination with scaling up, spatial concentration and to meet contemporary requirements. There is a growing social resistance against scaling up and the connected huge disinvestment.



Figure 6: Warehouse

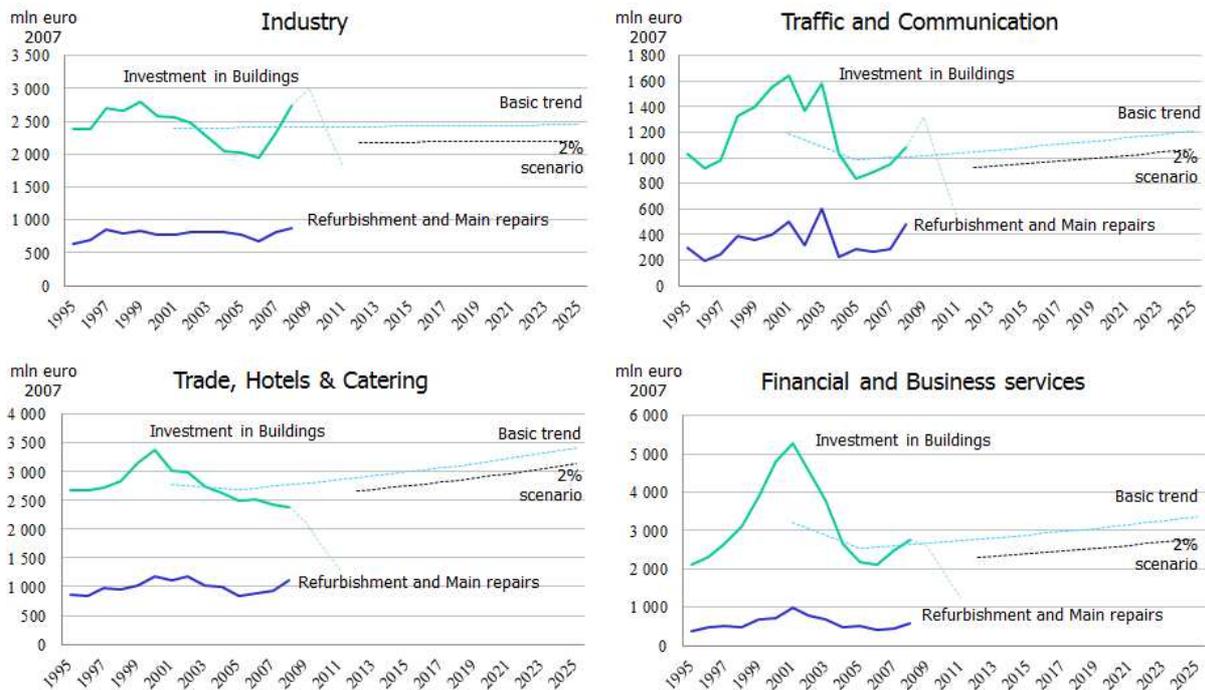


Figure 7: Investments in private buildings

Investments in private buildings

The market take-up of new buildings collapsed after 2008. After the present crisis the investments in industrial and commercial buildings will recover, but on a structural lower level. This in relation with moderate future growth of the industrial and commercial sector and a shift to replacement and modernisation of the building stock.

These sectors suffer on all points from a huge vacancy and under-utilization of industrial plants and commercial areas (with offices, retail or other buildings). The commercial real estate investors (and their clients) have a high tendency to disinvestment, instead of renovation of obsolete buildings. The priority of modernisation and sustainable redevelopment insufficiently results in real projects.

On the other hand the commercial development of offices, retail and other buildings links up with the changing market conditions. The future growth of the stock in use stagnates, especially the office stock in use and shopping area. Moreover the office employment will definitely decline, especially in the financial and business sector and in the government sector.



Figure 8: Conference room in office building

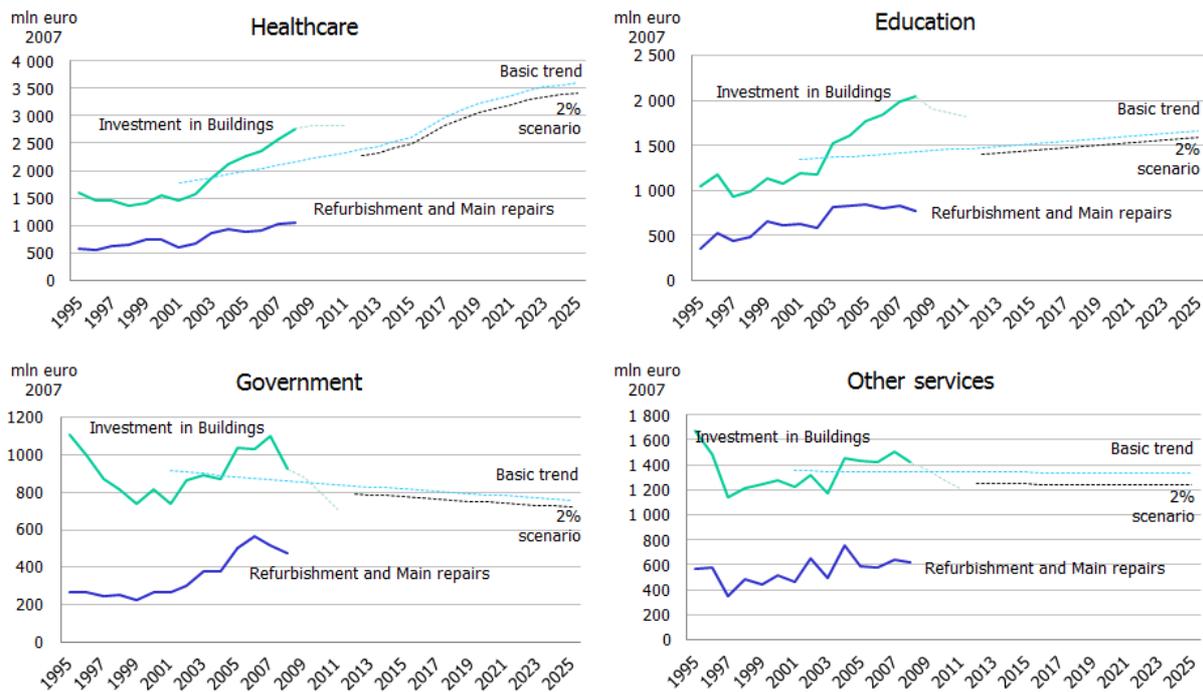


Figure 9: Investments in public buildings

Investments in public buildings

After 2001 the recovery of non-residential building activity was heavily depending on growing investments in public buildings. In the long run education is confronted with stagnation of the growth of the number of scholars/students, except foreign exchange. Government and non-profit services are confronted with a decrease of expenditure, employment and investment level.

The only sector with higher future investments is the healthcare sector, in relation to a growing ageing population. This is an attractive sector for the real estate developers to compensate their loss of market elsewhere.

A big social problem is the finance and (profitable) management of real estate investment in this area and in the connected residential facilities.

To conclude

A general tendency to overbuilding before 2008 strengthens the fall of investment in new buildings in 2008-2011. After the crisis remains:

- moderate growth of the economy and of user activities leads to a structural lower level of investment for expansion of the building stock (outside healthcare).
- growing investment for renewal of the building stock, by replacement, modernisation, refurbishment and/or transformation, in combination with investments in a more sustainable building stock.
- continuously high vacancy and underutilisation of the building stock, as consequence of high disinvestment, especially in the market sector (agro, industry, commercial services).
- real estate development for a space markets which are characterised by low or zero investment for expansion and buyers' market conditions, with competition on price, quality and client orientation.

Finally the reader should notice that complete stock-flow property research requires more physical and functional data information about (changes in) the complete non-residential building stock and its use. The available statistical information about building permits, construction output, fiscal valuation, real estate transactions and vacancy is for "real" observation of stock-flow-developments insufficient.

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