

Public Investments in Urban Development: Market Trends during and after the Financial Crisis

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Increase in the value of land is not reflected in transaction prices of land

The Dutch housingmarket is reaching new peaks. The number of sold properties, property prices and the number of newly-built houses are all increasing, and record-breaking, where you would expect the land market to benefit. In the past years, indeed the amount of traded land, as well as its' prices, have been increasing. However, the land market is proving to be less dynamic than expected and the increase in the value of land is reflected in the housing market but not in transaction prices of land. In this paper, Kadaster will visualize the dynamics on the land market for housing construction. We will discuss the causes of this differences between land and housing prices, focusing on what happens to the profit when land transforms to houses and the role the municipality plays in this process.

Researching the land market

When developing a new residential area, the so-called 'function' of undeveloped land will have to change, i.e. from an undeveloped green or agricultural location to a built-up residential location. Before development, the function usually is undeveloped green or agricultural land, which will then have to be transformed into the function residential land. During this transformation, a location usually changes hands several times. A farmer will sell land to a municipality, the municipality will in turn transfer the land to a developer, who will then sell the land to the new owner of the house. While this process can have many different forms, the key actors are generally the same. However, occasionally speculators or large investors in houses will anticipate development early on, and acquire undeveloped land for gaining more profit.

The Dutch Kadaster has an important role in this transformation process and in the analysis of the land market. These transactions of ownership should be recorded, new parcel structures need to be measured and this information must be included in the Public Administration of Kadaster. For landregistry it is necessary to register all property in the Netherlands. The registry furthermore contains information about i.e. the involved parties, sold land and the price paid in every transaction. In addition to the process of registration and the provision of legal certainty, the Dutch Kadaster as the Land Registry Office is responsible for providing information about the housing market.

Figure 1 – Typical transformation of (un)developed land and moments of transactions



Theoretical framework: the land market is influenced by the demand for new-build real estate

The demand for new development locations, and therefore the demand for still undeveloped land, derives from the demand for newly-built property. The higher the housing demand, the more demand for development locations and the more demand for undeveloped land. Subsequently, if house prices are high, the farmer may also demand high prices for his land. This condition for this, however, is based on two prerequisites: i) potential building locations for new development are scarce and ii) the new-build developments in themselves have a limited influence on price formation in the housing market as a whole.

These prerequisites are met in the Netherlands. First of all, the Dutch government applies a strict spatial planning policy and the supply of newly-built houses is regulated. As a result, price-competition among potential developers barely exists. At the same time, the share of newly-built houses in the existing housing market is limited. Newly-built houses account for less than one percent of the entire housing stock. As a result, the impact of newly-built houses on the housing prices is very modest. Overall, the Dutch housing market follows the land rent theory as proposed by 19th century economist Ricardo. The value of development projects, and with that the value of undeveloped land, is determined by that what happens on the housing market. In other words, land prices derive from housing prices (and not the other way around).

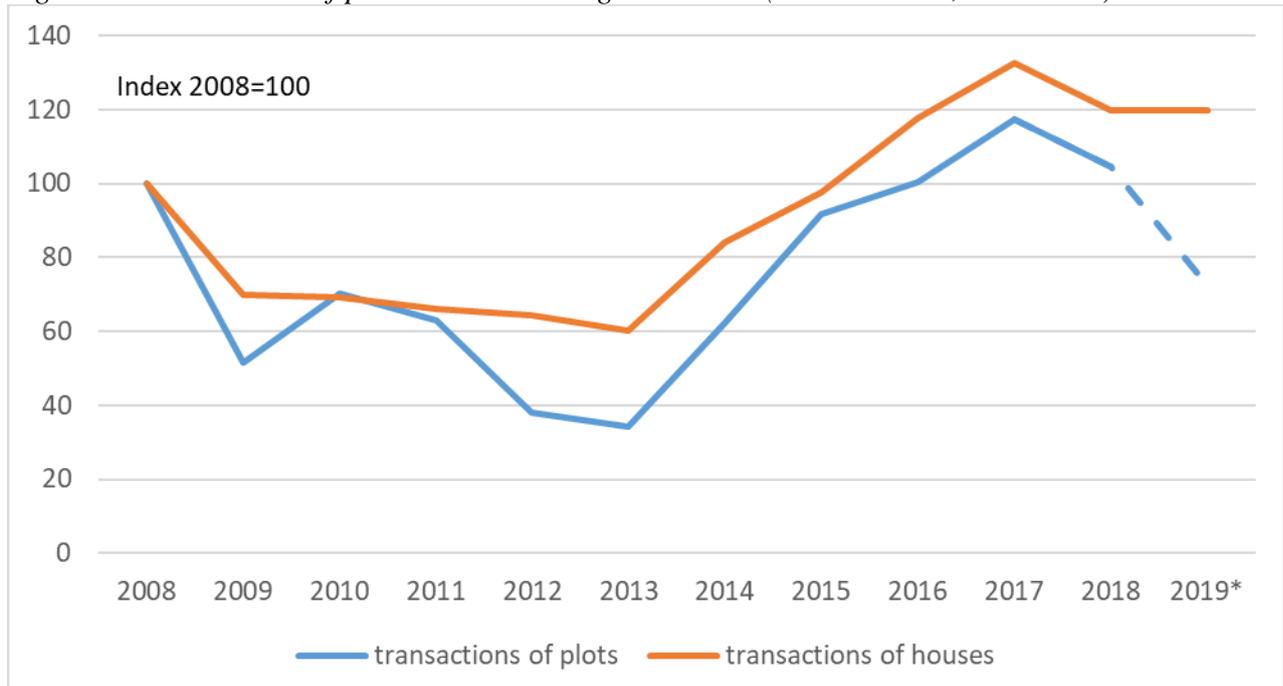
As a result, the laws of 19th century economist Ricardo have been complied with: the value of development projects, and therefore the land, is determined by what happens on the housing market. In other words, land prices are a derivative of house prices (and not the other way around).¹

Housing transactions increased after the economic crisis, lagging recovery of land market

This research starts with an comparison of the dynamics on the housing market and the purchases of plots designated for newly built houses by home-owners, which is the last step in the transformation of (un)developed land, as visualized in Figure 1. The dynamics of the last ten years have been strongly influenced by the economic crisis after 2008 and the strong recovery from this crisis after 2014. In 2008, home-owners purchased 182.000 existing houses, as well as 30.000 plots designated for newly-built houses. In 2009, this number has plummeted, with the transactions of existing houses decreasing by 30% and the transactions of plots halved.

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Figure 2: Transactions of plots ** and existing houses*** (index number, 2008=100)



* Number of transactions of plots in 2019 is provisional

** The transactions of plots refer to the final transaction when involved developers or municipalities transfer the land accommodating newly built houses to the new home owners

*** The transactions of houses refer to the purchases of existing houses from owner-occupiers

Source: Kadaster 2020

Figure 2 visualizes this trend. In 2013, the number of transactions reached an all time low, with the transactions of houses having declined by 40%. Home-owners purchased only a third of the number of plots designated for newly-built houses compared to 2008. After 2013, the number of transactions strongly increases; this increase reaches its top in 2017. Both markets have easily surpassed the level of 2008, however the development of plot-transactions does not increase as much as the development on the housing market. This is partially caused by the dynamics during the economic crisis, when the transactions of plots declined much stronger than the transactions on the housing market. Even though both markets recovered after 2013, this difference remained. Currently, it appears that the number of transactions of plots is declining again, whereas the existing transactions on the housing market continue to be high.ⁱⁱ

Development of newly-built houses is slowing down

This slowing down in transactions of plots for newly-built houses is unmistakable when looking at the development of newly-built houses. The information of the *Economisch Instituut voor de Bouw* (EIB) about developments on the housing market, clarifies that the number of newly-built houses has increased with at least ten percent per year since 2014. However, since 2019, the increase fell to two percent, and for 2020, a decline is expected.ⁱⁱⁱ This assumption is strengthened by the decline of applications for building permits. The demand for houses, however, does not seem to decline; the number of transactions of existing houses remains at an

undiminished high. It therefore seems that it is caused by stricter environmental requirements (stricter rules on Nitrogen oxide-emissions) for the construction sector and labour-shortage. This shortage of personnel affects all parties in land development, such as municipalities, developers and contractors.^{iv}

Land value increases as a result of increasing prices on the housing market

The dynamics on the housing market do not just result in a changing number of transactions; it also results in changing house prices. As mentioned before, increased prices on the housing market result in increased land value; essentially, the higher the value of houses, the higher the value of the land underneath these houses.

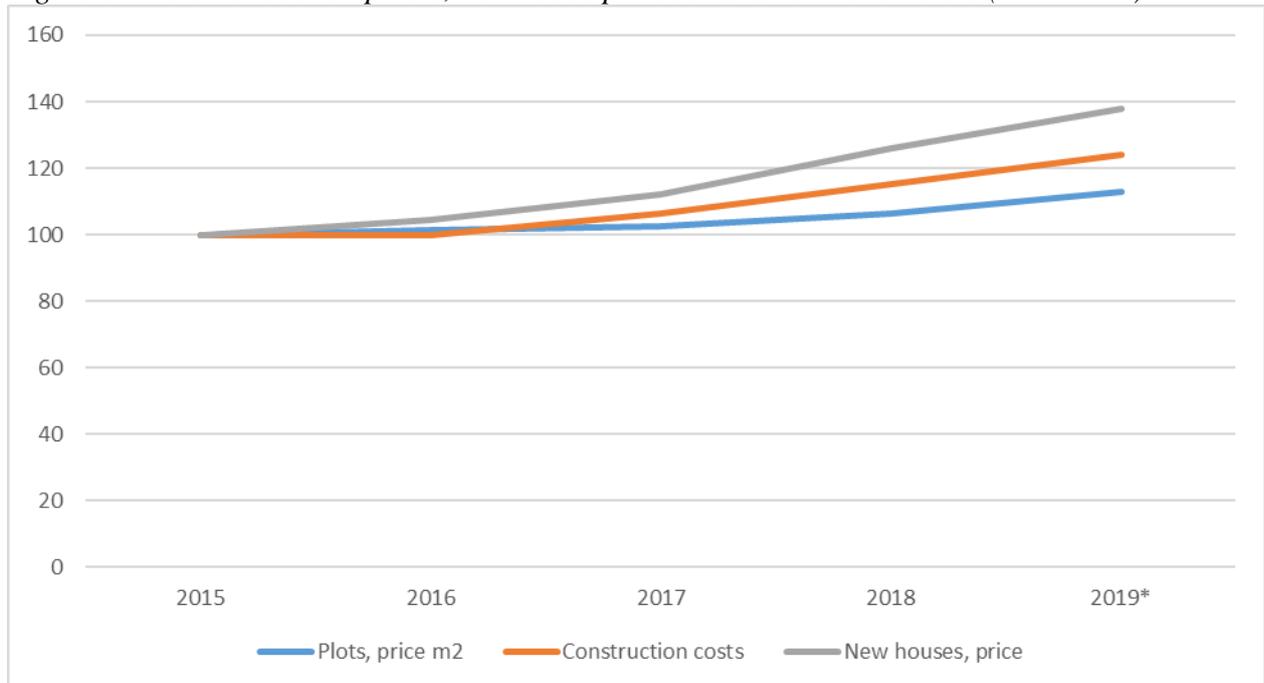
For development locations for newly-built houses, the increase (or decline) of land value can be substantial. For example, if the value of a newly-built house increases too strongly, and the construction costs remain the same, in principle the increase in house prices will be fully reflected in the development of the land value.^v It is therefore relevant to compare the increase in value of houses with the construction costs. This comparison can be made using numbers of the Centraal Bureau voor de Statistiek (CBS – Statistics Netherlands). Since 2015, the CBS has published a price index for new homes, which also monitors the construction costs.^{vi}

- Prices of newly-built houses have increased with over 35% in the last five years.
- During that timeframe, the costs for construction have increased with almost 25%.
- This quicker increase of prices of newly-built houses compared to the costs of construction means that there is value added in the development of newly-built houses. Development projects will increase in value; that increase of value is returned to the (residual) land value.
- Based on housing prices increasing with 35% and construction costs increasing with 25%, the land value increases with at least 50% (assuming that construction costs are at least 60% of the costs to built a house).
- The question, then, is if this expected increase of land value can be found in the registered land prices – and where in the transfers of (un)developed land (Figure 1) the price-increase is steepest.

Increase in land value not as steep as expected?

The value of undeveloped land is expected to have increased with at least fifty percent in the last five years, however, the registered increased value of purchased plots by home-owners is much lower. Since 2015, the prices of plots purchased by home-owners has increased with only thirteen percent. These percentages are based on the average price per square meter of these plots, sold to individuals. It becomes apparent from these numbers, that the increase in value of these plots lags behind the prices of existing owner-occupied houses and construction costs. This difference is visualized in Figure 3.

Figure 3: Plots transaction prices, new house prices and construction costs (2015=100)



* Provisional numbers for 2019, based on registrations until 2019Q3

Source: CBS, Kadaster

No incentives to increase prices for plots?

Why remains the value of registered increase in land value lower than could be expected, based on the housing market. There are several reasons for this difference ^{vii}:

- It could have to do with agreements between the municipality and other involved parties. Usually, before the start of a project, they agree on a fixed price for plots. Dynamics on the housing market that result in higher prices for newly-built houses do not necessarily result in adapting these agreements.
- The interests of involved parties are also of importance. Municipalities, for example, often have an interest in land values, since they are involved in land exploitation. Municipalities set certain conditions for land development, for example with regards to the environment, infrastructure, parking spaces or social development. The higher the

land value, the more possibilities for land exploitation. Higher house prices then result in more public investments rather than higher land prices.

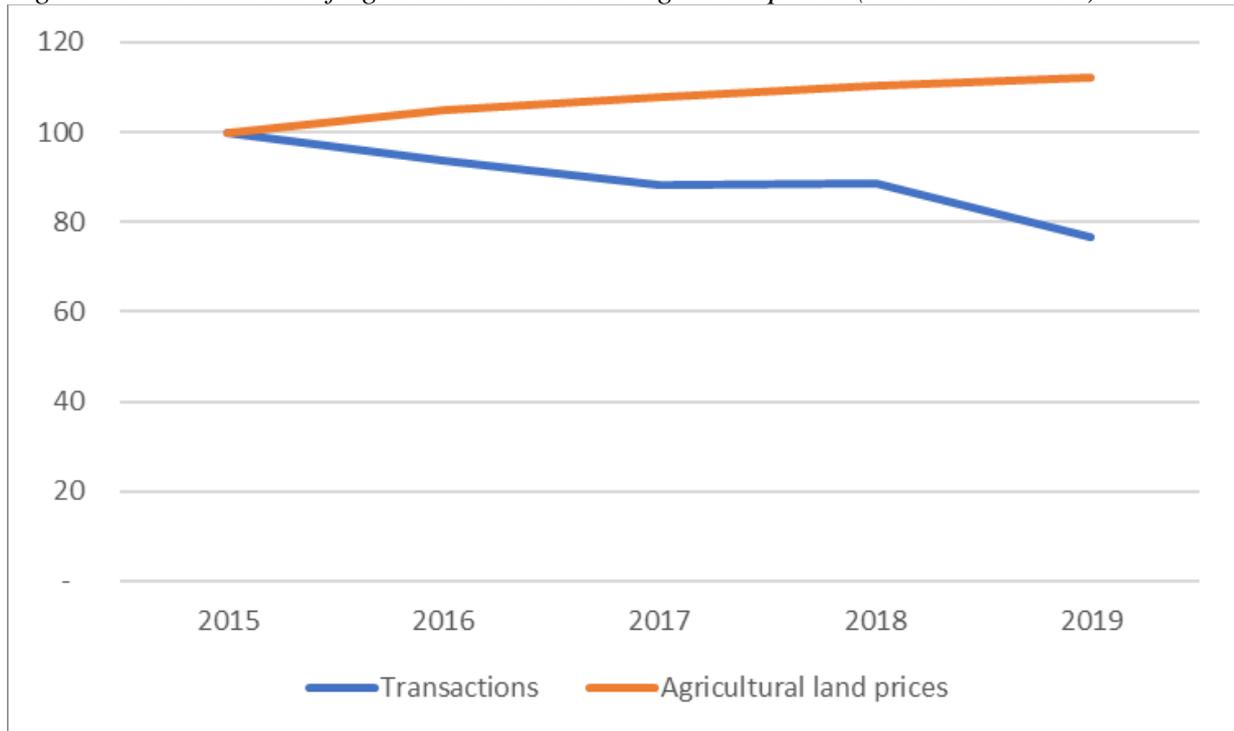
- In a general sense, market parties like developers and contractors usually have an interest in keeping the costs within construction development projects as low as possible. This also concerns agreements on the transfer of land revenues to municipalities, and thus the land prices to be applied.
- Lastly, if land prices increase, developers and contractors will have to deal with these higher prices in the future, which can be of negatively influencing the feasibility of future projects; therefore, it is in their best interest if the land value does not increase.

Is the increase in price visible in the price development of agricultural land?

The prices of plots, when sold to home-owners, do not increase as much as could be expected based on the increase in value of newly-built houses and construction costs. The question, then, is if this increase in value can be found earlier in the transformation of (un)developed land. The Kadaster registers transactions of agricultural land.^{viii} The expectation is that, when the amount of undeveloped land that qualifies for transformation increases, the demand for agricultural land increases, as do the prices. These transactions take place at the beginning of the transformation (figure 1).

In 2015, 10.9 thousand hectares of agricultural land has been traded. Then, the average price for a hectare of land was €55,000 (€5.50 per m²). After 2015, the number of transactions steadily declines. This is not in line with the dynamics on the housing market; it is, however, in line with the dynamics in the agricultural sector. In 2015 the willingness to invest is relatively high, but slowly declining in the years after, whereas the prices keep increasing. In 2019, the average price for a hectare has increased to €62,000.

Figure 4: Transactions of agricultural land and registered prices (index 2015 =100)



Source: Kadaster

Value of agricultural land has increased with thirteen percent since 2015

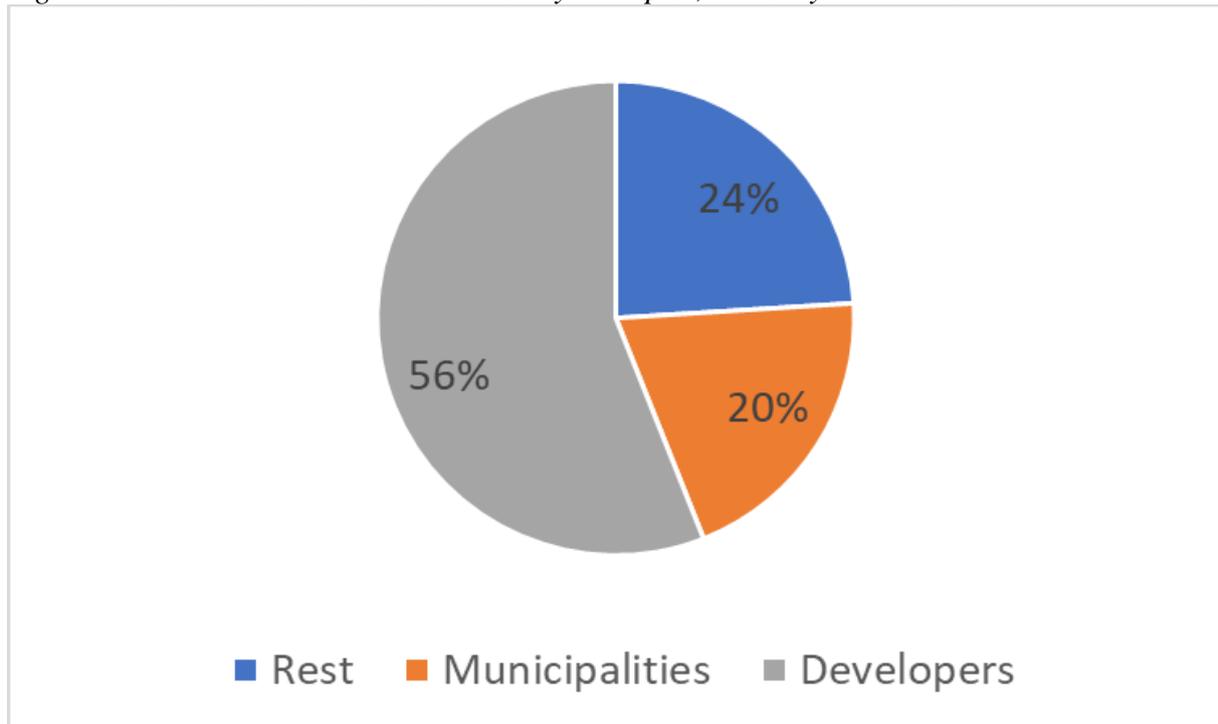
The trends on the agricultural land market are visualized in Figure 4, based on the price index of 2015. Since 2015, the prices have increased with thirteen percent. This is the same as the increase in value for plots designated for newly-built houses in the same period. Furthermore, it becomes clear that the increase of fifty percent for land value of development areas does not happen, as was the case for the prices for plots. Of course the trends in the agrosector also determine the prices set in this land market. In the last five years, the Dutch agricultural sector had to deal with overcapacity, increasing costs and stricter environmental regulations. Furthermore, the differences between sectors are large. It is possible that, caused by the demand for undeveloped land, the value of agricultural land has increased; however, this increase has simultaneously been diminished by these other factors. An increase in value of over fifty percent is certainly not visible.

So where does the profit from the transformation of (un)developed land go?

The price increases of value on the housing market are making development projects worth more. This increased value is, however, not visible in increased construction costs, increased value for agricultural land, nor is it visible in the prices that the home-owners pay. We would like to know if this increase in price is visible somewhere else in the transformation of (un)developed land. To gain more insight, an overview of the involved parties is needed. Usually, the municipality and developers are involved in the transformation, which is something that also becomes clear when visualizing from whom home-owners eventually buy their plot, or newly-built house. This visualization can be seen in Figure 5. At the end of the transformation, municipalities and developers are the ones selling most of the developed land, 20% and 56% respectively. The ‘other’-category, 24%, consists of a heterogenous group of corporations, investors and speculators.

Unfortunately, the answer to the question posed in the header of this section cannot be given within this research. The Kadaster’s knowledge on the adjustment of prices during the process of transformation is limited to what has been discussed here. Furthermore, it can also be questioned whether or not the prices of transactions during the process of transformation are representable. Alternative methods might offer other, and more, insights into the questions posed, such as TU Delft's research into the financial data of municipalities with regard to land exploitation.^{ix} Last year, they reported a positive result of one billion euros from land exploiting for housing, with figures based on the annual accounts of municipalities of 2018. Almost half of this profit belongs to the municipality of Amsterdam. Profit is mainly created when land exploitation is revaluated, and when profit is made (or lost) when land is sold. Although there are no figures available for the manner profit is created, it is likely that market parties have also been able to revalue their land positions in recent years.

Figure 5: From whom do home-owners buy their plot, or newly-built house?



Source: Kadaster (2017) Onbebouwde grond van actoren op de markt voor nieuwbouwwoningen

Strategic importance of land

The financial importance of the transformation process is large. Changing a function of land from agriculture to housing means that the land value increases many times. At the moment, agricultural land is worth €62,000 per hectare, or €6.20 per m². When selling a plot designated for newly-built houses, the home-owner pays, on average, almost €500 per m². This shows that, during this transformation process, the value of land increases almost 80 times.

The large economic (and social) importance of housing projects ensures that the actors involved compete with each other for early involvement, as this leads to taking up strategic positions and having control. For example, in the Netherlands, parties tend to buy undeveloped land before it has officially been designated for development, or they come to agreements with the owners, often farmers, early on. This way, developers, municipalities and speculators compete with each other for the most favourable position. From our research into the positions of these parties on the housing market, it is clearly that the combined number of plots owned by these actors is sufficient to accommodate almost the entire Dutch housing-demand.^x Many of these plots had already been acquired before the economic crisis of 2008.

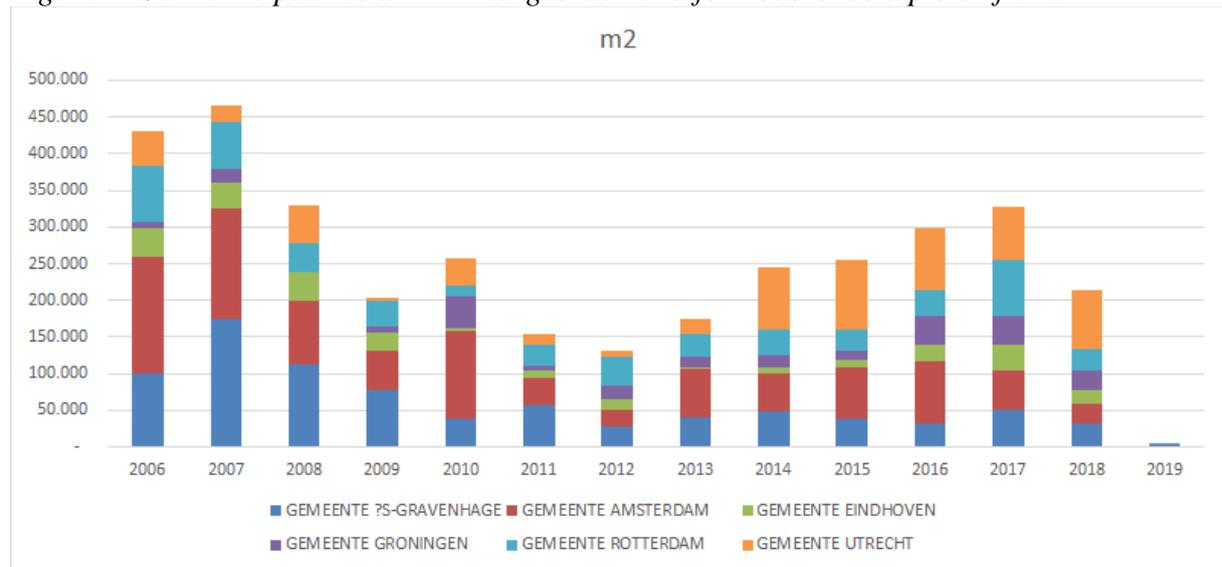
Municipalities have become less active on the land market

For developers, it is of economic importance to take a strategic position with regards to the land market. These market parties are financially driven, whereas municipalities (and possibly housing corporations) are driven by a social interest. Until the economic crisis, many municipalities maintained a pro-active land policy. Many municipalities used to acquire land for the purpose of housing development. In this case, ownership of land means being in charge in the realization phase and it offers opportunities to realise public goals, such as a policy for social housing, and ensuring investments for facilities and infrastructure.

After 2008, when the demand on the housing market stagnated, it became clear that a pro-active land policy comes with large risks. The demand declined, as did the prices; and developments had to accept large losses. Parties could not live up to their agreements and municipalities were financially affected, losing billions of euros.^{xi} Since then, municipalities have become more passive and have sought different instruments to ensure public goals in development projects. The six Dutch municipalities that are faced with the largest demand for houses have acquired significantly less plots than before the economic crisis of 2008, as is visualized in Figure 6.

The pressure on municipalities to return to their former, more pro-active policy has been increasing. The increased demand on the housing market in the last few years has made it, once again, lucrative to be active on the land market. Furthermore, to prepare for the expected population growth, the housing stock needs to be expanded. Despite the strong growth of newly-built houses, the number of houses needed is barely met. Moreover, the declined growth in housing development that is expected for 2020 will increase the challenge of realising the needed number of houses even further.

Figure 6: Six municipalities with the largest demand for houses: sold plots after 2006



Source: Kadaster

To conclude

The housing market is booming, the number of houses sold, as well as house prices, have reached unprecedented numbers. Prices of newly-built houses increase as well. In this paper we discussed the impact of the housing market on the land market. We tried to follow the transformation process from ‘greenfields’ to newly built houses. During this transformation, a location usually changes hands several times. A farmer will sell land to a municipality, the municipality will in turn transfer the land to a developer, who will then sell the land to the new owner of the house. These transactions of ownership are recorded by the Dutch Kadaster, as the Land Registry Office is responsible for providing information about the housing market.

The analyses of transactions showed that land prices only increased moderate compared to housing prices. These lagging prices, and also lagging increases of construction costs, mean that that are profits to gain in development projects. These profits probably are for the municipalities and developers, as they are responsible for the transformation process. However, the Kadaster’s knowledge on the adjustment of prices and identification of these profits during the process of transformation is limited.

The TU Delft’s research into the financial data of municipalities with regard to land exploitation offers some insight. Last year, the municipalities reported a positive result of one billion euros from land exploiting for housing, with figures based on the annual accounts of municipalities of 2018. Although there are no figures available for the manner profit is created, it is likely that market parties have also been able to reevaluate their land positions in recent years

Notes/references

- ⁱ Ricardo, D. (1817), “On the Principles of Political Economy and Taxation”.
- ⁱⁱ The EIB foundation is a leading Dutch economic research institute in the field of construction, housing and built environment.
- ⁱⁱⁱ EIB (2020) Verwachtingen Bouwproductie en Werkgelegenheid.
- ^{iv} EIB (2020) Verwachtingen Bouwproductie en Werkgelegenheid.
- ^v Residual land value is a method for calculating the value of development land. This is done by subtracting from the total value of a development, all costs associated with the development, including profit but excluding the cost of the land.
- ^{vi} CBS (2018) Prijsindex Nieuwbouw Koopwoningen
- ^{vii} EIB (2014) Grondmarkt in crisistijd, and CBP (2018) Het bouwproces van nieuwe woningen.
- ^{viii} Arable land, grass and silage maize.
- ^{ix} Willem Korthals Altes (2019), TU Delft, Financiële gegevens bouwgrondexploitatie gemeenten, Delft.
- ^x The Government has set a target for 1 million new dwellings before 2030 to accommodate housing demand.
- ^{xi} EIB (2014) Grondmarkt in crisistijd.