

Economic Evaluation of Renovation in Socially Deprived Housing Estates: a case study from Malmö

Gunnar Blomé

Malmö University, Department of Urban Studies, P.O. Box 205 06, Malmö
Royal Institute of Technology, Department of Real estate and Constructive management, Stockholm
Email: Gunnar.blome@mah.se

Abstract

The purpose of this study, is to analyse the profitability of a strategy to increase the quality of housing in socially disadvantaged large housing estates. The primary issue is to identify costs affected by poor management and the estates' social condition. Based on case study material from a socially deprived area, detailed economic data is discussed and analysed. The empirical data indicates that it is profitable to have a clear and active housing management strategy. The results also show that dedicated landlords', need to spend more resources on property management as this has a very positive impact on the local community as whole. Although the future estimated company value after the renovation process were profitable, from an optimistic assumption there are difficulties in justifying large scale investment purely from a business perspective. These findings give a better understanding of possible issues and the housing company's work process to improve an area. The value of the study, from a practical perspective, is a deeper financial knowledge of problems and possibilities to stabilize these housing areas and to find sustainable work methods. From a research perspective, this provides economic information which can be used for comparative management studies.

Key words: Large housing estates, Socially disadvantaged, Economic valuations, Strategy, Sweden.

1. Introduction

1.1 Background

During the period 1965-1974, Sweden carried out the so called “Million Home Programme” which consisted of 650,000 large high-rise estates and 300,000 single family houses. The large housing estates were often pre-fabricated and from the start inhabited by members of the Swedish working class, followed by economic immigrants and refugees (see Molina, 2001). Some of these estates are today popular and functioning well. However, in some other areas, you find significant social issues and segregated housing districts in poor condition, which is a modern form of slum characterised as substandard housing. This pattern of segregation and poor building quality is similar all over the Western Europe (Power, 1999; Andersson et al., 2003, 2005; van Beckhoven, 2006). In extreme cases, parallels can be drawn with the general housing standards in the Swedish cities back in the beginning of the 20th century, with problems of overcrowding, bad health and social deprivation. Modern urban theorists see similar trends in Europe and the U.S., with increased polarisation of low-income groups and increased social problems in certain housing districts (see Ball et al., 1990, Brindley et al., 1989).

In the research field of renewal of large housing estates, there are numerous studies of segregation, causes and consequences but very few economic studies - neither from a company perspective nor from society’s point of view (see e.g. Carlén and Cars, 1990; Andersson, 2002; Hedin, 2010). Many of these studies are quantitative and include large samples drawn from national datasets which include data from both deprived and non-deprived neighbourhoods and the differences between them. The perspective of sociologists, social anthropologists and social geographers otherwise seemed to dominate the knowledge in this area.

The broader economic studies identified (like social cost-benefit analysis) were mostly area limited evaluations of physical or social efforts and not many studies were actually found regarding the long-term economic effects of segregation. Studies conducted by Scott et al. (2001), Petersson (2001, 2002), Nilsson and Wadeskog (2008) and Lind and Lundström (2008) are all evaluations but in different categories, e.g. housing renewal, employment policies or youth preventive measures etc. Health concerns are another important field and the correlation between poor health and the socio-economic situation is well documented (see e.g. Ross and Mirowsky, 2001; Syme, 2003).

There are some studies dealing with companies’ social initiatives from a business perspective called CSR (Corporate Social Responsibility). Although these studies seemed rare, there is some research analysing the profitability of investments in CSR related to the corporation stock market development and previous and future year’s net present value of cash flow (see e.g. Holthausen and Larcker, 1992; Brown and Perry, 1994). These studies had a more methodological purpose, were not related to the real estate industry and generally lacked detailed company economic data (Margolis and Walsh, 2001, 2003). According to the theoretical review and presented empirical findings, the connection between companies’ social performance and financial performance are arguable. There are several clear connections, but causality is uncertain and there are many other factors to consider when a company’s social initiatives are discussed.

There are some economic studies in the field of anti-social behaviour about signalling effects related to the "broken window" theory (Wilson and Kelling, 2003; Keizer et al., 2008). This theory argued that well-ordered conditions lead to lower vandalism and thus less expenditure, but no concrete estimates in figures were actually found. El-Haram and Homer (2002) describe housing operation and maintenance cost factors but no breakdown of costs between them was included in the study. The elements presented were, for example, building characteristics, tenant factors, maintenance factors, political and other factors, etc. Gibbons (2004) shows how property prices deteriorated alongside high criminality. Unfortunately, no evidence relating to higher operation and maintenance costs were counted, which was the same in El-Haram and Homer (2002) and also lacking in Chrisholm (2000), who theoretically discussed crime prevention from an economic perspective.

The lack of an economic evaluation in Sweden seemed to be similar to the international case. A few economic research reports were found in Sweden associated with the business perspective. Eriksson (1995) conducted an economic evaluation that focused on the company perspective. More specific, was a reduction of management cost counted related to different implemented improvements. The methodology used was similar to this study. Alfredsson and Cars (1996) and Karlsson and Cars (1997) evaluated how society as well as the housing company, benefited from a model of self-management in Malmö. Although only a small proportion of tenants (20 percent) were actively involved, it led to a more active joint tenant responsibility and lower costs. A Swedish research report written by Lind and Lundström (2008) analysed economic outcomes of investment in a residential area called Gårdsten and they concluded, that the socio-economic result compensated for a negative business economic outcome. In particular, the authors pointed out that social capital must be at least as important as building equity because the estate's value quickly reduced drastically when social capital eroded. In Blomé (2009), a private housing company's organisation was evaluated from a company economic perspective. This report clearly showed that social projects, as a part of the day-to-day management, fit a socially exposed area well with reduced operation and maintenance costs as a result.

Most of these studies indicated that neighbourhood initiatives provide big savings but knowledge is very limited and more economic studies are required. This is mainly because most of these studies only analysed small defined projects and to a limited extent related them to the overall development of society. There are methodology measurement problems and some variables are simply too difficult to study, because it is not possible to obtain useful data.

The study's general aim is to reduce this information gap and understand in more detail, the alternative strategies impact which is further described below.

1.2 The aim of the study

The aim of this study is to make an economic evaluation of a specific renewal project in Malmö, Sweden. The main focus is on consequences for the company, but some broader effects will also be evaluated.

In 2006, the municipal housing company, MKB Fastighets AB (MKB) acquired two estates in a socially deprived neighbourhood called Herrgården and then started the renovation of the area.

A secondary aim is to develop methods to make such evaluations and show what kind of data is needed and how it can be analysed.

1.3 Structure of the article

The article is divided into six sections. In the next section, the study's methodology is described. Section 3 presents the Herrgården Project. Section 4 presents the economic evaluation. Section 5 presents the society perspective. Section 6 contains the analysis. Conclusion and recommendations can be found in the final section.

2 Research methodology

2.1 A case study approach

The empirical data used in this study is based on a detailed four-year case study in one of Sweden's (Malmö) most depleted neighborhoods. The research project started as a project documenting Malmö Municipality's housing company's (MKB) renewal process in Herrgården. To begin with, 40 interviews with tenants were conducted simultaneously with the housing company's first round of organised home visits in order to find out the tenants' opinions, which are presented in table 1 below.¹ The home visits in the research project lasted anything from 30 to 90 minutes and represent 11 percent of all the 294 households. They varied demographically and in size in order to get an overall fair picture. This study is limited and therefore compared with the staff's own experience from their 884 home visits in a period of three years, containing over 1,000 pages of internal company documents. All the empirical evidence shows a very clear pattern about what priorities tenants considered most important. The picture of overcrowding and alienation was confirmed in the interviews. The tenants were in general isolated without any contacts or input from Swedish society and had been ignored by previous landlords. The tenants had many ideas about improvements and their priorities.

It was interesting to note that the tenants were fairly outspoken, whether it was to me as a researcher or the housing company's own staff who visited them. Communication worked well and linguistic misunderstanding was rarely a problem and in some cases solved by other tenants or family members involved as translators. The housing company did, however, use multilingual staff which in some cases simplified meetings but also made it difficult for other monolingual staff to work in the area, i.e. tenants would rather talk to selected individuals.

Documentation material was collected by me a researcher, passively participating in the change process during the first year and then returning with monthly visits (and interviews with staff over subsequent years which are further described in table 1). The collected

¹ The sample was selected randomly and the interviews were conducted mostly without staff but also with them.

empirical data from tenants interviewed is summarised in nine categorised subjects. This is complemented with oral and written documented experiences from the housing company's own conducted home visits. In addition, the first round of these interviews along with my own completed interviews form the basis of this presented collected empirical information. The tenants were asked to give their opinion concerning what main priority they thought was needed to improve housing satisfaction. Of course, several things were mentioned but only one counted as the most important change: law and order.

The staff interviews were done individually or in small groups depending on circumstances and personnel availability. They were asked about their overall strategies, investment and approaches, company financial data, working roles, how everyday tasks were handled and the tenant relationships. The interviews lasted between one and three hours, depending on the respondents' work situation and availability. They were conducted with frontline staff and management being organized as open discussions. The interviews with the Police and Fire Department were all conducted by telephone with responsible representatives. These authorities sent statistical information including crime rate and fire frequency in Malmö. Most of the data is available in Swedish public official statistics provided by the Government and some was found on the local authorities' Internet web information database available to the public. The information went through several steps of analysis using spreadsheets. According to Gummesson (2004) a case study approach is suitable when a phenomenon is complex or knowledge is missing. For that reason, a case study approach was selected. Below are the empirical activities in the case study reported in table 1. The housing company's own documentation from 884 completed home visits. Interviews with tenants and staff conducted by myself and my own observations are included in the gathered empirical information.

Table 1: Interviews

Case study	2006	2007	2008	2009	2010
Frontline staff	12	12	6	6	2
Management	6	6	6	4	4
Tenants	40				
Police and Fire Department					6
Total	58	18	12	10	12

2.2 Comparative method

An evaluation compares two alternatives, in this case: what happens when a certain measure is taken and what would have happened if this had not been done. In this case, the general strategy is as follows (details will be given later when the data is presented).

If the renewal had not been implemented it is assumed that operating costs would have continued at a high level and that the rent would have to be reduced. If a renewal is implemented it is assumed that the situation in the area would, after a while, be like the situation in nearby areas of a similar type that have been managed by MKB for many years.

Two such nearby large housing estate neighborhoods (Örtagård and Törnrosen) were chosen as reference points as they were comparable in geographic location, construction year, social situation, demography and household and apartment sizes (see table 2 below). Although the

three neighbourhoods presented are apparently slightly different from each other, they are the most comparable ones in Malmö.

Table 2: Herrgården, reference points and Malmö as a whole from 2010

Basic information	Reference objects			
	Herrgården	Örtagård	Törnrosen	Malmö
1 Room and kitchen	9%	4%	2%	-
2 Rooms and kitchen	26%	25%	31%	-
3 Rooms and kitchen	55%	50%	44%	-
4+ Rooms and kitchen	10%	21%	23%	-
Under age	49%	40%	36%	20%
Employment	16%	37%	40%	64%
Social welfare assistance	66%	29%	27%	8%
Foreign background ²	96%	92%	93%	37%
Turnover	35%	24%	23%	17%

2.3 Economic data and analysis

Interviews were conducted to gain empirical information from the terms of reference containing comparative data targeting management experience, operation and maintenance costs and rental income. These interviews were conducted with the relevant managers together with frontline staff. Based on the Blomé (2009) example, operation costs associated with the neighbourhoods' deprived social situations were separated from other costs. These additional expenses are assumed to be an extra social cost for the housing company to maintain and operate a non-functioning neighbourhood. Herrgården's cost level above the level of the reference point is assumed to be the additional cost related to the social situation that could be avoided by the company's policy to upgrade the area.

The analysis focuses on two alternative strategies. The first option (a) is to invest resources and the second option (b) is to continue without such an investment.

2.3.1 Investment evaluation

The aim of investment is to obtain an acceptable return on equity. Whether the investment is considered profitable or not, depends on the investor's objectives. However, an acceptable investment can be identified with the equity investment models such as e.g. net present value. The outcome of the municipal housing company's investment is determined by the total investment cost, net operating income, residual value and the required rate of return over the expected holding period. The net present value is described by the following formula:

$$NPV = \frac{R}{(1+p)^n} - G + \sum_{i=1}^n \frac{a_i}{(1+p)^i}$$

² Both first and second generation counted.

NPV	net present value
G:	total investment cost
p:	required rate of return
R:	residual value
a:	annual income surplus
n:	expected holding period
i:	year

Calculations are made for 15 years and discounted at a real interest rate of 4 percent. The figures are reported in SEK, per apartment. The residual value is the value at the end of the 15-year holding period. As the calculations are forward-looking and focusing on two management alternatives, the price that MKB paid for the estate will be disregarded as this is the same in both alternatives.

A sensitivity analysis is done to see how the result is changed by different assumptions e.g. different rents and interest rates. It is important to combine various kind of information when estimations are made e.g. future operation and maintenance costs, rental income development and external factors such as labour market aspects etc. The article also includes a section where some additional costs for society are estimated and this concerns Fire Department and Police costs. These parameters are based on the number of fires between 1990-2010, and the crime rate between 1998-2010, in Herrgården. To avoid the extreme impact of a specific year, the median value has been used. The Police cost is based on Nilsson (2007) and Dubourg et al. (2005) and they divided crimes into categories: violent crime, burglary, car crime, vandalism and theft/threat/other. This cost includes utilised resources in relation to the crimes. In addition, detailed information about various crimes was available from 2005-2009, unlike other years, when only frequency was reported. The Fire Department cost, is based on number of fires and includes staff and material costs for an average rescue operation. All estimates were checked through discussions with professionals.

Finally, a partial cost benefit analysis is presented which includes both the company and society perspective.

To improve the comparability, the cost is reported in cost per apartment.

3. The Herrgården Project

The development of the Herrgården area is described in Lind and Blomé (2011) and in Blomé (2008) where further references and area description can be found. Here the focus is only on the specific measures carried out by MKB after they bought the areas. As mentioned above, interviews were conducted with the tenants and based on their opinions, the company started to restore and fulfil basic requirements. The residents were deeply involved and contributed with their thoughts and participated in organised social activities. The scale of the needs required clear leadership and good cooperation between the local work-team. The strategy is described in more detail below, under the following headings: *Local housing administration, social projects and property maintenance*.

3.1 Local housing administration

The municipal housing company started the process by opening up a local office with extended office hours. From the office the tasks were coordinated and the area supervised. The former landlord also used a local office, but the tenants confirmed that it was rarely open or staffed. At first, 6 employees were handpicked, working-roles were structured, individual schedules were created and home visits were conducted. This was done primarily to meet the initial field-related needs and to get an overview of urgent priorities. The schedules included: a morning round, office hours, responding to fault reports, handling of invoices, ordering of contractors and social projects. A work schedule resulted in a less stressful day for the staff and increased tenants' understanding of their work. To create better tenant relations, the estate based service was more closely linked to the residents. Caretaking staff, environmental coordinators, social coordinators or managers were directly involved in the social projects together and the local staff team also had its own budget responsibility.

The local staff team organisation was organised in-house from the local office although specialised repairs were outsourced to external firms. This way of organising the local housing administration improved the ability to make the right decisions, because the staff gained detailed local knowledge of both current and future needs. However, this model raised some moral hazard issues related to personnel management concerns (see Blomé 2010). In this case, it was presumed not to be a very big issue because local managers and frontline staff were delegated full responsibility. The company management was from the beginning very active and followed the process closely. In other words, there was good knowledge and transparency in the day-to-day working process.

The lettings system was also managed from the local office with a clear letting policy and an important strategy was initially to find out who lived in the apartments and to help overcrowded families to move to more suitable apartments nearby. Tenants got a new opportunity to move to other internal estates within the company's housing stock, which they could not do before due to the area's general bad reputation externally. A new letting policy gave the staff an opportunity to screen tenants' ability to pay and increased the rent payment control i.e. checked that the rents were paid on time. Tenants with payment problems were helped by structured payment plans. A more structured letting process and more control increased the possibility of finding illegal sub-lettings that proved to be a common phenomenon. This not only increased the management's ability to work effectively, but also improved the tenants' willingness to pay rent and gave some overcrowded families better living conditions. However, in reality only a few families were helped by the overcrowding programme (17 households of 294), so overcrowding still is a huge and complicated issue due to large families, a strained housing market situation and a lack of available large apartments. In other words, it is difficult to re-house large families because there are very few re-housing alternatives.

The turnover in Herrgården in 2006, was initially approximately 20 percent and had increased to 35 percent by 2010. In the estates owned by the municipality housing company, it has been reduced to about 10 percent, which is below the neighbouring areas and Malmö as whole. This means that the turnover is even more in other parts of Herrgården than the presented figure indicated. It should be mentioned that turnover has decreased in the estates owned by the municipal housing company, as a result of the additional measures and the improved housing satisfaction, turnover actually increased at the beginning of the process. There could be natural explanations of turnover differences and figures should be treated with caution.

However, the municipal housing company claimed that movers from neighbouring areas generally moved to nearby single family houses or tenant cooperative, e.g. condominiums. They also said that those from Herrgården moved instead to other rental estates within Rosengård. This pattern was supported by the public statistics and as much as 52 percent of Herrgården movers only moved within the area and 23 percent moved to municipal housing company owned estates in neighboring areas in Rosengård. The remaining 19 percent, were households who moved to nearby housing districts and 6 percent moved to other parts of Malmö. A minor part of this last group of movers actually moved to more central parts of Malmö, which was mostly explained by a social welfare apartment programme. A notable factor was that not a single household moved outside Malmö.

Starting from a zero-tolerance level, every fault was reported whether they were physical defects, disturbances or other problems related to the area. In some cases, it was impossible to immediately respond to the tenants' requirements and sometimes the frontline staff needed more time to check out and correct reported faults. The important thing was not to correct the fault at once, but instead return to the tenants and never promise more than they could fulfill. Common areas were frequently cleaned to avoid littering, graffiti, garbage and bad odours. Stairwells were cleaned twice a week compared with once a month earlier and the courtyards were cleaned every day compared to a few times a year, as earlier on. The green spaces were restored, and moreover, fixed, the lights were improved and new flowers and facilities installed to create as much satisfaction and security as possible. The frontline staff conducted daily inspections which became an important routine to improve law and order. Tenants were sceptical after years of poor management and therefore home visits became an opportunity to restore trust in the relationship. It should be noted that these kind of estates located in disadvantaged neighbourhoods need more resources than an average 'normal-functioning' area depending on the general overcrowding as well as the households' poor social situation.

However, the residents' involvement in the changes in the area proved to have a positive effect on e.g. reduced vandalism. These meetings between staff and tenants improved not only the mutual understanding between those two groups, but also seemed to increase the staff's awareness of important priorities. Ordinary management routines continued as usual besides all the additional social activities that were organised by the local staff team. An active information campaign improved the residents' knowledge about rules and commitments through information in the stairways and monthly newsletters along with regular meetings. The frontline staff's motivation was in this case improved, because they were backed up by the top management, were better paid than other staff in the company and were all familiar with the significance of their work.

The work process was hit by several setbacks over the years and some staff had to be replaced because they became physically and mentally exhausted or were simply put under too much pressure. Nevertheless, the majority of the original employees were very enthusiastic and kept on working. The company has recently cut resources to the over-sized local organisation and nowadays only half of the initial workforce is left. This was done when the improvements were completed on the grounds that such intensive management would no longer be necessary due to a more normal field situation. This is obviously a big risk but necessary from a rational company perspective. The company kept enthusiastic staff and had more resources that could be quickly deployed if the field situation changed or new problems arise. However, the strategy of social projects kept being an important part of the management, which the frontline staff and the former manager argued was necessary.

In summary, the fundamentals of the presented strategy is to organise the local housing administration at a local office with handpicked staff, establish law and order and adapt service to the area's specific needs i.e. zero tolerance level and clean and fix as much as needed (which is presented in more detail in table 3 at the end of this section).

3.2 Social projects

The housing company earmarked resources to develop residents' involvement in neighbourhood related social activities (also presented in table 3 below). During the first four years, one person was employed full-time and fully integrated in the frontline staff team. The focus was on younger people and included contacts with children and youngsters, establishing and supporting resident committees, coordinating activities and providing information. Social projects became a fundamental strategy to improve the residents' situation as well as the management's ability to work efficiently. An important part was sponsorship and networking with e.g. residents, community organisations, schools, private businesses, other landlords and non-profit making organisations. In these types of socially disadvantaged areas social activities are seldom a natural part of the daily management. Instead, these projects are usually organised as time restricted projects and allocated temporary resources. This is not the case in these estates and the company policy was from the beginning clear: "*social projects are an important part of the day-to-day management*" (quote from a manager). However, resources for such social activities have been cut to a smaller amount of the total estate budget in response to a more normal field situation.

A meeting point house was opened for younger people, located between the two estates which proved to be a great help for non-profit making organisations when they established their work. This was also a way to focus on new activities and reduce the area's anonymity and aimed to bring together all the different cultural interest groups in an integrated community. The initial idea was that it would be run by residents for residents, as an established meeting point. However, it was found that it is tough to maintain such a facility in a difficult area without any external support. The lesson that can be drawn from this is that resident involvement or participation needs much encouragement and support from outsiders to be successful.

To improve contacts, children were involved in caretaking at an early stage and helped staff with outdoor cleaning, planting flowers, designing works of art, farming projects and putting up nest boxes. Children were also engaged in the decision making process and contributed with their thoughts when playground and courtyard areas were designed. Summer jobs were offered to youngsters and particularly talented individuals were allowed to join activities organized outside the area, such as; cinema or football games at the city's stadium. Several important non-profit making organisations were active and the goal was to inspire tenants to push this work forward. The staff's role was to support and inspire residents and they tried also to influence the proportion of resources invested by private landlords as well as the municipality.

Anonymity and problems related to vandalism and other criminal activities were reduced and this was also confirmed by the police who argued that the social projects made a big difference to the area's development. Implemented social projects were popular among most residents, regardless of age and gender. Activities that primarily involved adults were an annual festival and focus groups were organised determined by issues relating to the planned

physical changes. Although it was a priority to get the younger people involved, it was also important to get adults engaged. However, a problem was that it was difficult to involve girls. The frontline staff had no explanation for this, but they thought boys naturally take more space and cultural differences made it difficult for girls to participate.

The work process was complicated by the existence of negative forces represented in Herrgården, which impacted on all parts of the neighbourhood. However, the MKB estates in general, seemed to be more insulated than other parts of the area because they were less affected by riots, vandalism and fires. A further factor was that the social projects were seen as an explanation of this positive development. Nevertheless, there was a minority that would rather keep to itself and formed its own social groupings, which complicated the work and discouraged the worthy ambitions of reducing anonymity which the tenants complained about in the interviews. Having said that, a positive thing is that the children did not follow this pattern and played with each other regardless of their origin, ethnicity or cultural background.

3.3 Property maintenance

The property maintenance of Herrgården's estates had been extremely neglected for many years. The facades, entrances and outdoor environment gave a very poor impression and the municipal housing company conducted detailed inspections to obtain information about all the physical defects. At this early stage, it was important to make a priority list and listen to the tenants' needs. From the start, tenants were informed and had an opportunity to participate in and monitor the process, i.e. call attention to important things, selecting materials, colours and design etc. Property maintenance includes all physically planned measures to restore the outdoor environment, the buildings and the apartments. The requirements were substantial and major economic investment was needed to restore the area.

New qualities were implemented in the outdoor environment which proved to be a key priority for the tenants, who stressed the need for new playgrounds and improved security. The "green space" was updated after years of neglect and new flowers were planted. The lighting was improved and the two courtyards were rebuilt to meet today's modern design. A major issue was that nobody dared to use the underground garages due to fear of assault, car crime and vandalism. More lighting and private parking spaces made a big difference and nowadays, garages are used by more tenants than before. New semi-public outdoor spaces were built in all first floor apartments to reduce anonymity and a new underground refuse separation receptacle was installed to solve the problem of littering. To increase the opportunities for activities, ball game areas were constructed, new benches built, barbeque areas installed and a meeting point house built. The physical renovation and improvements were designed to increase residents' satisfaction with a clear focus on younger people's requirements.

All entrances were renovated, all elevators fixed and all stairwells repainted. The surfaces of the properties had deteriorated after years of landlord neglect, overcrowding, vandalism and lack of control. Modifications e.g. renovation of the basements, were done to increase security as much as possible. The laundries were already in good condition and no changes were needed except for wear and tear repairs of the washing machines.

Most of the residents, especially women were afraid of the basements, storage areas and garages. As mentioned before, this is partly explained by earlier criminal incidents that had remained in their minds. Technical maintenance was carried out to ensure the building functioned properly. This included an examination of the ventilation systems, minor renovation of the facades, modified heating systems and replacement/repair of roof, electricity, water and sewer pipes. The latter mentioned measures are natural maintenance related to the real estate's age more than the residents' behaviour or the former landlord's ignorance. However, it is clear that none of the former landlords initiated any technical maintenance despite the fact that it was obviously needed.

The apartments were carefully inspected at the same time as the home visits were conducted by the frontline staff. The kitchens, wardrobes, walls, doors and floors were in poor condition and large moisture problems were noted in the bathrooms. Major efforts were made after a priority list was drawn up and urgent renovation began as soon as possible. The renovation lasted for four years, because the housing company thought it was important to involve tenants, which was a very time-consuming process. This was considered necessary and tenants as well as staff were pleased with the final results. It should be added that the needs were enormous and it was not easy to coordinate such a large operation. External firms, contracted to complete the renovation/repairs were from the start handpicked, introduced and acquired detailed information about the situation of the area before they started. This simplified not only the contact between the housing company and the external firms, but has also improved those said same firms' contact with the tenants, while facilitating their work.

Finally, it is important to point out that the maintenance focus was mainly on restoring the property's physical condition (further explained in table 3). The outdoor environment proved to have a significant impact on residents and visitors' perceptions and simple efforts have improved the outdoor environment, reduced the lack of security and increased places where people could meet. The renovation intended to raise the standard to reach a normal basic property level. However, it is important to remember that no resources were spent on things that were not requested or believed to be necessary to guarantee the fundamentals.

3.4 Summary of the renovation policy

In table 3 below, there is a summary of the things that MKB implemented in the area.

Table 3: Summary of key activities

Local housing administration	Social projects	Property maintenance
Decentralised management, local budget and letting control	Earmarked economic resources	More focus on restoration than on renewal (except outdoor environment)
Improved control, routines and outdated rules	Focus on younger people	Implemented a priority list of urgent physical needs
Quick correction of reported faults and disturbances	No limited time project bound	Inform and involve residents in maintenance tasks
More intensive caretaking and cleaning	Residents involvement in decisions	Restoration and renewal of the outdoor environment
All frontline staff participating in environmental social projects	Encourage tenant initiatives	Restoration of the buildings
Residents involvement in decisions	Inform and involve other players	Restoration of the apartments

4. Was it profitable for the company?

In this section basic data and assumptions on revenue and costs for the company are presented which are used for a cash-flow analysis of the profitability of the measures taken.

4.1 Rental income

It is remarkable that the rents were relatively high in Herrgården, considering the deprived situation compared to other similar nearby “well functioning” estates. Swedish rents are regulated and should be based on "user's value". The rents were recently negotiated by the local municipal housing company and the local tenants' association which set the level for similar apartments in private landlord estates. After some minor changes, the tenant

association still has a continued important role to protect tenants' interests, but negotiation has become more independent and the municipal housing companies have lost their earlier normative role. The basic principle is the same and housing quality changes are still supposed to lead to adjusted rents i.e. that lower housing quality generates lower rents and vice versa. Unfortunately, this has not always been the case which is confirmed by the high rents in Herrgården, despite the low quality of housing.

Two variables, beside the rent level, that affect the level of incoming payments are unpaid rents and the number of vacancies. These variables are presented as additional operating costs and the aim with that was to gather all identifiable indicators that may be influenced by the area's social condition. The housing company argued that it was difficult to change the rents when large investments were required to change a situation where maintenance had been neglected. Normally, funds are earmarked for future maintenance tasks and negotiated rents intend to cover them. This, apparently, has not been the case in Herrgården. The rents were initially higher in Herrgården in relation to the reference area (further described in table 4).

The average rent level is now (in 2010) 62,500 SEK per apartment in Herrgården, which gives an average monthly rent of 5,200 SEK per apartment, but can differ depending on the apartment size and standard. This should be a relatively normal level for a well-managed area which is interesting regarding that the reference area initially was of a better quality compared to the deprived estates in Herrgården. A normal situation, given no housing quality improvements, but acceptable management and maintenance, is an increase of by 2-4 percent per year, to compensate for inflation and increasing energy and labour costs.

Table 4 describes the rent development for the alternative where measures are taken. The first year the rent was not increased, but then it follows the assumed normal development as in the reference area.

Table 4: Rental income in Herrgården (income per apartment)

Rental income (SEK)	Herrgården	Reference
Year 1	59,200	56,200
Rent change	-	+1.9%
Year 2	59,200	57,300
Rent change	+2.2%	+3.5%
Year 3	60,500	59,200
Rent change	+3.3%	+3.3%
Year 4	62,500	61,200

For the case where no measures are taken the calculation is based on two different assumptions: either the rent will stay constant in real terms or the landlord is forced to reduce the rent by 30% by year 5. This is discussed more in section 4.4 below.

4.2 Physical and social investment

A large amount of resources were spent on additional operation and property maintenance tasks, to restore the estates to their original housing state. The measures included restoration of the outdoor environment, buildings, apartments and social projects. All together, 280,000 SEK per apartment was invested over a four year period (see table 5 for details).

For the whole period, 6,500 SEK per apartment was invested in social projects which represent 2.3 percent of the total investment. After two years, the social project resources were reduced as a response to an improved field situation. In this case, only staff costs were reduced and additional money was kept to continue implementing projects. Special funds allocated for social project purposes have, after the investment period, been an accepted part of the annual operating and maintenance budget.

Table 5 below presents the actual physical restoration and social investment separately, to illustrate the total amount spent on financial resources.

Table 5: Physical restoration and social investment (cost per apartment)

Physical and social investment	Year 1	Year 2	Year 3	Year 4	Total cost
Physical restoration	-93,150	-62,150	-77,600	-40,600	-273,500
Social investment	-2,050	-2,050	-1,200	-1,200	-6,500
Total cost	-	-	-	-	-280,000

4.3 Additional operating costs

Additional operating costs are the extra operation and maintenance cost that is related to the estate's social condition. These type of costs exist to a greater extent in socially deprived "non-functioning" neighbourhoods, compared to more socially stable districts and are categorised as follows; *turnover, vacancies, total apartment renovation, maintenance of the outdoor environment, refuse disposal, cleaning, graffiti, broken windows, fire damage, general destruction, disturbances, unpaid rent and management of unpaid rent*. In each section three figures are presented. The first are the costs in Herrgården year 1, the second are the reported costs year 4 in Herrgården and the third costs are the costs in the reference areas. All costs are reported as cost per apartment per year. The difference between the first and the third is the profit from investment in the Herrgården. As will be seen below, some extra adjustments have, however, been made. The figures are presented at the beginning of each section and then the underlying information is presented.

4.3.1 Turnover, vacancies and total apartment renovation

Additional operating costs	Year 1	Year 4	Normal cost
	<i>Herrgården</i>	<i>Herrgården</i>	<i>Reference</i>
Turnover	-500	-1,800	-1,400
Vacancies	0	0	0
Total apartment renovation	-1,000	0	-50

These variables are closely related to rental income and tenant control. The turnover cost includes expenses to handle inspection and minor renovation- when the tenants vacate their apartments. This cost has increased dramatically, which could be explained by the fact that a number of the tenants started on the property ladder. This cost is estimated with the help of professionals at an average cost of 15,000 SEK for each turnover. In general, this level is normal but can differ from case to case. A project, to reduce overcrowding, was implemented and tenants were given an opportunity to move to other parts of the company's housing stock. This increase is natural but still a bit more than what could be considered as normal related to the improved situation. It should be remembered that most of the tenants had a locked in housing situation and any climb up the property ladder would be mostly through the municipal housing company. The turnover has, as a result of the improvements in 2010, decreased by 10 percent, which is very low compared to other parts of Herrgården and the reference areas.

There were no vacancies caused by empty apartments due to a declining demand (0 SEK per apartment). This variable is normally calculated based on lost rent, but empty apartments may also result in additional costs when identifying new potential tenants. The pressure on developing regions has been substantial in recent years, e.g. in Malmö. This explains why the demand is constantly high and why housing shortages have increased. Vacancies in the near future, are most of the time natural due to the short time period between a tenant moving out and a new tenant moving in. If this intermediate period is not efficiently organised, it could lead to a high transaction cost, i.e. a long time to get the apartment rented out again. In the early 1990s, Malmo was suffering from a lot of vacancies caused by the economic crises and a period of deflation. This period not only hit the property value in general with decreased profitability, but also led to an increased number of socially economic vulnerable households in social disadvantaged estates. Nevertheless, housing demand recovered relatively quickly and has continuously increased since then.

The last variable “total apartment renovation cost” is a potential issue in areas of social exclusion and depends primarily on three things, i.e. mental illness, tenant misbehaviour and lack of landlord control. This cost has dropped from a relatively normal level (one percent of all apartments) to a zero level. It is calculated from an average level of 100,000 SEK per damaged apartment which was confirmed to be a reasonable average cost by professionals. However, the variable seemed to be very unpredictable and therefore it is excluded in an alternative calculation (see table 6).

4.3.2 Maintenance of the outdoor environment, refuse disposal and cleaning

Additional operating costs	Year 1	Year 4	Normal cost
	<i>Herrgården</i>	<i>Herrgården</i>	<i>Reference</i>
Maintenance of the outdoor environment	-1,800	-900	-50
Refuse disposal	-900	-250	-50
Cleaning	-2,300	-1,750	-900

These variables are closely linked to the caretaking process and how it is organised. The maintenance cost of the outdoor environment has decreased but remains at a high level compared to the reference area. This variable was calculated based on how much time the frontline staff spent on this activity based on an average working hourly cost of 250 SEK per hour. A housing company's priority is to keep the outdoor space clean and free from litter. Residents were, from the start, involved in the caretaking process, e.g. that children after school helped staff with various chores and thus improved their sense of responsibility which reduced problems with littering.

The cost of refuse disposal has fallen and three explanations were found; improved tenant responsibility, improved management routines and better garbage facilities. This variable was calculated based on how much time the frontline staff spent on this activity based on an average working hourly cost of 250 SEK per hour. At first, the refuse disposal lacked capacity and a large container was used and emptied once or twice each week. From the moment a modern refuse facility was installed, the issues more or less disappeared which seemed to be closely related to this new technical facility. Another major difference was that outsiders who before dumped their garbage in the container or on the area's green space, were stopped by the improved facility, new car barriers, better management routines and checks.

The cleaning cost contained the total external contractor fee for cleaning the estates, which was reduced during the first period. This data is collected from the company's accounts. Cleaning has apparently not met the estates' actual needs and the tenants' requirements. In principle, the management has doubled the cleaning frequency to two or three times a week compared to the reference areas, which are cleaned once a week. It could take as much as one month, confirmed by the tenants, between cleaning sessions before, when the former landlord was responsible. There is always a basic cleaning requirement to fulfil and the frequency could differ, but is adapted to meet the overall needs associated with those who live there. A high level of need could possibly indicate a problem which is linked to how serious the landlord is and what level is considered acceptable from a tenant perspective. Reduced cleaning would lead to decline and have a direct impact on the tenant satisfaction level. The managers considered the need for cleaning to be a kind of tenant behaviour indicator providing detailed information on an estate's level.

4.3.3 Graffiti, broken windows, fire damage, general destruction

Additional operating costs	Year 1	Year 4	Normal cost
	<i>Herrgården</i>	<i>Herrgården</i>	<i>Reference</i>
Graffiti	-1,100	-150	-50
broken windows	-150	-400	-300
Fire damage	-700	-100	-1,550
General destruction	-300	-200	-200

These variables are closely related to the residents' behaviour. Graffiti could become a recurring management problem, but has in this case reached a more manageable level from a relatively high initial cost. This variable was calculated based on how much time the frontline staff spent on this activity and based on an average working hourly cost of 250 SEK per hour. Young people were from the beginning involved in social activities and a zero-tolerance level has been introduced i.e. all graffiti was removed immediately. In addition, children especially had, as mentioned before, an opportunity to participate in the caretaking process which was a way to achieve improved mutual understanding. At the beginning of the process, several hours each day were spent on removing graffiti which has been reduced to only a few hours each week and the increased resident involvement seemed to be the key in accomplishing that.

The cost of destroyed windows has increased and was clearly associated with poor management decisions and earlier neglect. This type of data is collected from the company's accounts. The use of plastic windows turned out to be a poor idea because they were scratched and became ugly in direct sunlight. Instead, real glass windows were installed but these were broken easily and the management, as an alternative, tested tempered glass which proved to be functional. Overcrowded estates with such great wear and tear need other types of adapted management solutions. It may be added that the final divergence is not large in comparison to the measured reference cost. It is easy to blame tenants as a cause of all the problems, but the management has a big responsibility, e.g. for finding appropriate customised solutions.

The cost of fire damage was decreased and one reason could be that residents pay more attention and are more concerned with the estates. The reference cost was significantly higher, but this seems to be the result of exceptional events. The managers' observations strengthened the hypothesis that the additional measures have been important to the area's transformation and for the tenants' involvement. Fires may not be related to an individual property and those who live there, instead this phenomenon could be spread by disorder between different estates or within a specific neighbourhood or housing district. Although this variable indicates a pattern of the overall positive changed field-situation, it seemed to be very unpredictable and moment-based, which made it less reliable and therefore it is excluded in an alternative calculation (see table 6).

A slight decrease in the general cost of destruction has been found. This included costs to repair general deliberate damage, various carpentry damage, destroyed locks and lighting. The data is collected from the company's accounts. The cost of general destruction is approaching the reference cost which was initially not at an extremely high level. There may be unreported incidents because they are sometimes not documented i.e. due to the fact that it could be difficult to determine if the damage had been caused by vandalism or by natural wear and tear or ended life cycle. From a manager perspective, this reduction was obviously related to the area's overall positive progress.

4.3.4 Disturbances, unpaid rent and management of unpaid rent

Additional operating costs	Year 1	Year 4	Normal cost
	<i>Herrgården</i>	<i>Herrgården</i>	<i>Reference</i>
Disturbances	1,200	-600	-600
Unpaid rent	350	300	150
Management of unpaid rent	-500	-150	-50

Variables such as disturbances, unpaid rent and management of unpaid rent, are closely related to the residents' behaviour. The disturbance cost has gone from a relatively high level to a more reasonable level. This cost included both external contractor costs, that administrated noise reports in the evenings, nights and at weekends, as well as frontline staff cost calculated based on the working time that was used to manage these type of disorders. Disturbances were calculated based on how much time the frontline staff spent on this activity based on an average working hourly cost of 250 SEK per hour. The time spent on these activities has dropped from 20 hours to 4 hours each week. This is a remarkable improvement and has had a significant impact on tenants' satisfaction which was also confirmed by the managers.

The level of unpaid rent is relatively unchanged, according to the data that was collected from the company. As mentioned before, this is counted as a cost together with similar variables which indicate issues related to the area's deprived situation. The majority of the tenants were dependent on social welfare in order to pay their rents (see table 2). This means that most of the tenants have some form of social rental guarantees, i.e. that local government pays the rent. The economic margin is very limited for most households. This situation is, of course, very difficult to deal with because the individual tenant is suffering, the landlord receives no rent and society lacks options and has limited public resources. However, a positive sign, confirmed by the managers, is when the tenants improved their ability to pay, it seemed to be closely related to increased personal responsibility and improved economic life situation.

Management of unpaid rent, is calculated based on how much time the frontline staff spend on this activity based on an average working hourly cost of 250 SEK per hour. This includes administration time in processing the tenants' personal payment files. A preventive work policy does not necessarily mean an instant outcome, but in this case, proved to be positive and linked to the tenants' willingness to pay their rents. This administration includes social considerations, tenant consultations, contact with the social workers, payment plans and rent payment control. The management of unpaid rent seems related to how the housing company manages their contacts with the tenants.

4.3.5 Total cost differences

All data is presented in table 6 below. In order to refine estimates, fires and total apartment renovation costs are excluded in alternative calculation (2) compared to alternative calculation (1) were all variables were included (see table 6). Some indicators differ randomly, which can lead to high costs in a specific year and a significant influence of the estimation's reliability. However, even if these indicators were removed, the change in the two calculations presented here, turned out to be similar. A possible assumption after four years of additional investment

is normalised operation and maintenance costs and the difference between the first year compared to the reference area (normal cost) in calculation (1) and in calculation (2) of approximately -5,500 SEK per apartment each year. This sum is supposed to be the additional cost for a landlord on a deprived estate when the landlord does not provide adequate resources to turn the area around, and *this is the amount that the landlord saves by making the initial investments.*

Table 6: Additional operating costs (cost per apartment)

Additional operating costs	1. Main calculation (all variables included)			2. Alternative calculation (total apartment renovation and fire cost excluded)		
	Year 1	Year 4	Normal cost	Year 1	Year 4	Normal cost
Herrgården/Reference	Herrgården	Herrgården	Reference	Herrgården	Herrgården	Reference
Turnover	-500	-1,800	-1,400	-500	-1,800	-1,400
Vacancies	0	0	0	0	0	0
Total apartment renovation	-1,000	0	-50	-	-	-
Maintenance of the outdoor environment	-1,800	-900	-50	-1,800	-900	-50
Refuse disposal	-900	-250	-50	-900	-250	-50
Cleaning	-2,300	-1,750	-900	-2,300	-1,750	-900
Graffiti	-1,100	-150	-50	-1,100	-150	-50
Destroyed windows	-150	-400	-300	-150	-400	-300
Fire damage	-700	-100	-1,550	-	-	-
General destruction	-300	-200	-200	-300	-200	-200
Disturbances	-1,200	-600	-600	-1,200	-600	-600
Unpaid rent	350	300	150	350	300	150
Management of unpaid rent	-500	-150	-50	-500	-150	-50
Total sum	-10,800	-6,600	-5,350	-9,100	-6,500	-3,750

Cost reduction = -5,500

4.4 Residual value

The difference in residual value is calculated from an exit yield of 5 percent. This is according to praxis, calculated from the predicted difference in net operating income at the end of the calculation period. The exit yield is a little higher than the discount rate to reflect increased uncertainty. The value can be seen as the estimated difference in property value related to the investment made in the area.

4.5 Analysis of the profitability

In the following section, the exit values at the end of year 15 are presented from three different scenarios: no difference in rent, annual rent increase and reduction in rent. Assumptions are based on the measured operating cost savings related to the implemented investment. The investment was, as mentioned, 280,000 SEK per apartment and this is

assumed to take place at the beginning of the calculation period. The estimated operative annual saving is 5,500 which is 53,000 SEK discounted for the whole period per apartment. The exit yield is, as mentioned, assumed to be 5 percent and the exit values are discounted with a rate of return of 4 percent. As long as the estimated net present value is positive, the implemented investment is assumed to be profitable. The three cases presented here, only estimate the monetary value and other values such as e.g. the company's reputation, tenant perspective and impact on the local community are not considered in this section.

Neither of these calculations included any assumption on vacancy differences. This was to make comparison between investment and non-investment alternative more similar.

4.5.1 Case 1 – no difference in rent

The implemented investment is clearly unprofitable in the case when there is no difference in rent between an investment and non-investment option. The comparison gives a negative net present value for the investment of -166,000 SEK per apartment (see table 7). This means that unchanged rent levels provide no incentive to invest new resources although the investment leads to lower operating cost and a higher residual value.

This result also indicates that for a short period of time, it can be profitable for landlords to continue without new investment when the level of rent is maintained. This result is in line with the many real estate transfers over the last two decades in Herrgården, that were implemented at a high price even though maintenance was neglected. In this case, the rent regulation has failed to protect the tenants' interests.

Table 7: The profitability of the investment with no rent compensation

No difference in rent	
Investment	-280,000
Operating cost year 1-15, net present value	53,000
Residual value, net present value ³	61,000
Net present value for the investment	-166,000

4.5.2 Case 2 – Annual rent increase

The investment alternative is in this case assumed to be compensated by a 2 percent annual (real) rent increase, compared to an option with no investment where rents are assumed to be kept constant. This type of annual rent increase is reasonable and is similar to the last decade's rent changes on Malmö's large housing estates. This relates to last four years of rent increases by 8.7 percent in neighbouring areas, during a period with low inflation. The comparison gives a negative net present value for the investment of -90,000 SEK per apartment (see table 8). This means that the additional annual rent increase was not enough incentive to compensate for the investment, although the investment leads to lower operating costs and a higher residual value.

³ The undiscounted residual value difference is 110,000 SEK per apartment.

Table 8: The profitability of the investment with a 2 percent annual rent increase

Rent increase	
Investment	-280,000
Operating cost year 1-15, net present value	53,000
Rents, net present value	59,000
Residual value, net present value ⁴	78,000
Net present value for the investment	-90,000

4.5.3 Case 3 – reduction in rent

The investment alternative with constant real rents is compared here to an alternative with no investment and a reduced rent of 30 percent. The comparison gives a positive net present value for the investment of 181,000 SEK per apartment (see table 9). This indicates that rental reduction is a very powerful instrument directly affecting profitability, but the rent reduction must be relatively large, about 20-30 percent, to justify the investment. In this example, there is a certain risk of overestimating residual value because the future net operating income in the no investment alternative is much lower because of the rent reduction. It can however be seen that even if the difference in residual value is reduced with 50 percent, the investment is still profitable.

A higher discount rate of 6 percent would further reduce the investment option, but not enough to produce a negative net present value for the investment.

Table 9: The profitability difference with 30 percent rent reduction

Reduction in rent	
Investment	-280,000
Operating cost year 1-15, net present value	53,000
Rents, net present value	141,000
Residual value, net present value ⁵	267,000
Net present value for the investment	181,000

5. Was it profitable for society?

In this study, only Fire Department and Police costs are estimated. Variables such as educational results, health concerns and labour market issues are important, but not included. These variables depend very much on structural changes in society and general policies in a number of areas.

The population level in Herrgårdén, over the last 10 years, has been relatively constant and does not explain the increased incidence of crimes and fires (see table 10). Overall, there is normally a correlation between the percentage of population and share of fires and crimes.

⁴ The undiscounted residual value difference is 140,000 SEK per apartment.

⁵ The undiscounted residual value difference is 480,000 SEK per apartment.

This population has probably increased in Herrgården before investment was made and an unconfirmed police source indicated that up to 9,000 people could reside in the neighborhood's 1,360 apartments. This speculative figure could have explained part of the higher crime rate. There are probably a lot of lodgers and illegal sub-lettings hidden in the statistics.

Herrgården has experienced a deprived situation since the beginning of 1990s and from the year 2006, the situation has worsened dramatically. This is illustrated in table 10 in the number of crimes and fires. It should be added that some of the fire incidences have spread to neighbouring areas from Herrgården (see table 6). The population has increased by nearly 20 percent in the last few years of the 1990s. This has led to further stigmatisation and additional social problems. The fire problems have almost completely stopped in the municipal housing company owned estates in Herrgården. This has been the case since 2007, as a result of the implemented measures. A notable decrease has also been observed in other parts of the neighbourhood since 2009, when other landlords started maintenance procedures.

Table 10: Population, fires and crimes in Malmö and Herrgården

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Population in Malmö	233,887	234,796	236,684	237,438	242,706	245,699	248,007	251,408	254,904	257,574
Fires in Malmö	511	392	407	377	403	390	289	347	254	322
Crimes in Malmö	-	-	-	-	-	-	48,134	50,098	50,797	50,551
Population in Herrgården	-	-	-	-	-	3,816	3,816	3,764	4,137	4,462
Fires in Herrgården	28	23	17	27	14	9	7	6	8	21
Crimes in Herrgården	-	-	-	-	-	-	-	-	323	338
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Population in Malmö	259,579	262,397	265,481	267,171	269,142	271,271	276,244	280,801	286,535	293,909
Fires in Malmö	380	339	431	497	659	781	752	619	787	845
Crimes in Malmö	51,750	51,141	54,267	55,602	62,240	54,667	55,738	58,864	58,456	62,066
Population in Herrgården	4,564	4,698	4,868	4,925	4,898	4,812	4,820	4,914	4,914	4,878
Fires in Herrgården	18	19	35	22	33	32	19	49	115	102
Crimes in Herrgården	338	430	361	401	348	392	542	580	661	840

5.1 Fire cost

The cost of the fire department is based on fire statistics from Herrgården between the years 1990-2009. The median is 21.5 fires and the mean is 30 fires during this period. In order to avoid abnormal values impact, the median is used as a measure of a normal field situation. Additionally, 21.5 fires seemed to be a reasonable standard frequency since the level is comparable with measured fire frequencies in other similar stable normal large housing estates in Malmö. The years 2008 and 2009 are extreme years and the number of fires have increased a lot since 2006. The year 2009 with 102 fires is used as a measure of an extreme situation which means that the difference between the median and the extreme value is the assumed number of fires caused by the lack of social stability in the neighborhood. The estimated Fire Department cost included staff and material cost of an average rescue operation and all estimates, have been checked by professionals. The cost of an average rescue operation was 10,000 SEK per hour and lasted 4.78 hours for each fire, which is the same as 2,829 SEK per apartment, each year ($80.5 \cdot 47\ 800 / 1360$). This cost could actually be higher

because the firemen were always escorted by police officers due to incidents with stone throwing kids. These additional police officers are not included in the calculation to avoid overestimates. In addition, a 15-year period gave an additional cost to society of 35,500 SEK per apartment, in comparison to a normal field situation (using the same discount rate as before).

5.2 Police cost

The police costs are based on the number of reported crimes in Herrgården, between the years 1998-2010. Statistics on various crime types are described in detail from the year 2005 to 2009. These years have been used as a reference of normal and extreme situations. There were 392 crimes committed in 2005, which is roughly consistent with the median 397, but below the mean 489, for the last 12 years. Although “the year 2005” value is slightly below the presented median value, it is used as a measure of a normal field situation as an adaption of the existing statistics. The crime types have been categorised into five categories based on the estimated social cost: violent crime (100,000 SEK), burglary (30,000 SEK), car crime (20,000 SEK), vandalism (10,000 SEK) and theft/threat/other (5,000 SEK). These costs included utilised police resources and legal administration in relation to the crime types. In 2005, 392 crimes were committed in Herrgården:

- violent crime – 29
- burglary – 8
- car crime – 37
- vandalism – 89
- theft/threat/other - 229

In 2009, a more extreme field situation was indicated with 840 committed crimes:

- violent crime – 75
- burglary – 9
- car crime -172
- vandalism 229
- theft/threat/other - 335

The cost differential between these years (extreme and normal) is 7,261 SEK per apartment, which is the same as the cost to society related to additionally criminality (15,790 000 (-) 5,915 000/1,360). Increased violent crimes and vandalism have a particularly negative impact on people’s feeling of security. A 15-year period gave an additional cost to society of 80,700 SEK per apartment, compared to a normal field situation.

When additional fire and police costs are counted together, compared to a normal area situation it corresponded to an additional approximate cost of 10,000 SEK per apartment, each year.

5.3 Cost benefit analysis

In this section, the society and company values presented above are combined over a 15 year period. The evaluation is done in order to find the most profitable alternative by looking at the value difference between an investment and a non-investment alternative. The figures used are explained in earlier sections and discounted based on a real interest rate of 4 percent. As long as the presented estimated value is positive, the investment is assumed to be profitable. The difference in net present value for the investment is presented from the three different cases: no difference in rent, rent increase and reduction in rent (see table 11).

No difference in rent (case 1) gives a negative value of -55,000 SEK per apartment for the investment, when the additional society cost was included, which means the investment can not be justified (give the variables included).

Annual rent increases of two percent (case 2) give a positive value of 21,000 SEK per apartment for the investment. This means the investment is positive from a cost benefit perspective, although it was not profitable from only a company perspective.

Reduction in rent by 30 percent (case 3) gives a positive value of 292,000 SEK per apartment for the investment. Even if the presented figures can be discussed, it is clear that an extensive reduction in rent, unless resources are invested, seemed to be the strongest incentive for a landlord to provide additional resources. It should not be forgotten that this is the case for very poorly maintained estates.

The results presented in table 11, show that case 2 and case 3 outweigh the costs, but not case 1. In addition, both society as well as landlords with a long-term ownership strategy gained from a rent level that corresponded to the housing quality. A higher expected real interest rate will of course reduce the value of the investment option in all cases.

Table 11: Cost benefit analysis

Cost benefit analysis	No difference in rent	Rent increase	Reduction in rent
Investment	-280,000	-280,000	-280,000
Operating cost year 1-15, net present value	53,000	53,000	53,000
Rents, net present value	0	59,000	141,000
Residual value, net present value	61,000	78,000	267,000
Additional society cost 1-15, net present value	111,000	111,000	111,000
Net present value for the investment	-55,000	21,000	292,000

6. Analysis

The main purpose of this study was to identify and study costs related to the estates' social condition and analyse the profitability of the municipal housing company's investment in restoring two extremely neglected estates in a housing area called Herrgården in Malmö. The estates were built during the Million Homes Programme and were occupied by socially weak households. The reason behind Herrgården's situation, as can be found in earlier research, is high level of immigration related to the economic crisis back in the 1990s, which led to high

unemployment, concentration of refugees, weak economic households and social exclusion (see e.g. Poppola, 1998,1999; Ristilammi, 1994, 2007; Molina, 2001; Hallin et al., 2010). It is possible that capital investor interests have played a major role behind the area's collapse and since the early 1990s, there have been 5 different owners in one of the estates and 7 owners in the other estate, which were the subjects of the study. The picture is the same in other parts of Herrgården and an owner with a short investment horizon with poor management is no dream scenario for these type of estates, which normally require additional resources to function well (see Lind and Blomè 2011 for a more detailed analysis).

There are some important lessons to learn from the Herrgården case and the policy that the municipal housing company implemented. The close cooperation and involvement with the majority of the tenants, social projects and improved management routines was a recipe for success which improved the legitimacy of the measures conducted by the housing company. The additional investment was implemented step by step, in order to have time to find out the tenants' priorities. The main objective was to restore, update and fulfil basic housing quality requirements and not only implement a predetermined large scale regeneration project. The tenants thought law and order was of most importance and a local field office with additional staff resulted in being very helpful when the difficulties were tackled. This intensive caretaking was helpful, but raised some moral hazard issues which are discussed further in Blomé (2010). It seemed to be important for landlords to have a consistent policy for the development of Herrgården, because the area could easily fall back in to difficulties when the housing company goes back to a normal management routine. This has been the case for many disadvantaged large housing estate areas as well as Herrgården, which were fixed in earlier renovation projects.

6.1 Policy discussion

The progress of Herrgården is, in the long-term, dependent on other landlords' initiatives operating in the area and how society as whole manages to integrate people into the labour market. When landlords have started maintenance procedures in their area, the problems have also been reduced in other parts of Herrgården. Additionally, landlords' need to invest in tenant participation processes and the study has indicated that adapted management resources produced approximately 12-16 percent (5 500 SEK per apartment) less operation and maintenance costs.

The municipal housing company's overall aim with the investment, was to restore housing quality and not to change the areas socio-economic composition. The aim was not to improve the socio-economic integration, but to give some individuals a better life situation as their housing situation was upgraded. The investment has contributed to a positive development of neighbouring areas where the municipal housing company also is represented. In fact, turnover has declined from about 20 percent to 10 percent in the estates which are the subject of the study during the years of additional investment, while turnover as whole, has increased to 35 percent in Herrgården, during the same period.

The main question addressed is how to make landlords more responsible and motivate them to provide enough management resources. An interesting observation is that the lack of management resources in a certain situation may provide a higher yield than a strategy with adapted management resources. A crucial factor explaining this is "incorrect" rents (as in case

1 above) and other circumstances discussed further in Lind and Blomé (2011). Nevertheless, a substantial rent reduction of 20-30 percent could easily motivate the renovation and investment implemented by the municipal company related to an alternative strategy with no additional investment (see case 3). For example, a 30 percent rent reduction would hypothetically directly reduce the property value by 50 percent, based on net operating income. To avoid problems of neglected estates, the rent should not be increased until the quality defects are restored and it is important that stakeholders, such as banks, really include this deteriorated condition to prevent further speculation. It appears as well-managed properties have not been rewarded in the rent setting system by financial investors. The study indicated that a 2 percent rent compensation was not enough to justify the investment (see case 2), but it could work very well as an incentive for preventive purposes. The difference in rents between a poorly managed property and a well-managed property is, in general, very small related to the specific situation of the different areas of Rosengård. In other words, the property product varies in and between different housing districts and also between local rental markets. The rent should reflect these quality differences within the housing stock. This would favour long-term interests which are crucial for these areas continued development.

What motivated the investment by MKB seems to be a combination of company and socio-economic benefits and the investment was clearly profitable from a long-term perspective. A situation of no investment would have caused additional costs to society of 10,000 SEK per apartment each year, due to a higher estimated rate of crimes and fires. There are also other factors to consider, but those are more dependent on structural changes in society and general policies in a number of areas not further analysed here e.g. improved work ability, health and school performance among those who live there. There is still a need for new investment in the properties related to natural time-based maintenance and energy saving, although most of these were handled during the period of renovation. Nevertheless, based on this study's experience, quality improvements should not be about implementing large-scale solutions, but rather based on the measures of tenant participation processes and an update of the existing milieu that focuses on the most important things. This is also a way to reduce costs and thereby also make the rents more affordable.

6.2 General discussion

The problems of deprived large housing estates are frequently described as difficult to solve, both by politicians and researchers. In many ways, that is a correct statement, but a hopeless situation in MKB's part of Herrgården which has rather quickly turned into a more optimistic one and the results of the renovation process in Herrgården were in general positive. There is a continued need for additional adapted resources to maintain and improve the area further. An alternative solution to the ones presented is reduced initial physical investment and even more focus on social projects, but that would probably damage the immediate positive result and lead to further deterioration as the estates are not restored. That solution is probably more efficient when problems are smaller than in Herrgården. There are some obvious problems when additional resources are used for a limited period of time, which may lead to disappointment among tenants afterwards, when the same additional level of service is no longer offered. Another alternative solution is a demolition strategy, but that is complicated to implement as many households must be evacuated, because there are few other housing options for these groups of tenants. Newly constructed houses in Rosengård, are probably also too expensive for the people currently living there.

8 Conclusion

The renovation process conducted by the municipal housing company was successful. There are some important policy lessons from the renovation and the following finding presents the article's most interesting results.

- The empirical data indicated that a deprived area needs a policy that includes tenant participation processes and active housing management with increased management resources. In Herrgården, it led to a saving of 12-16 percent of the estate's annual operating and maintenance costs. The additional investment also enhanced the tenants' ability to have a normal life, which in turn, increased the general housing satisfaction.
- The empirical data indicates that whether additional investment is profitable or not from a company perspective to a large extent depends on the effect on rents. If the rents do not reflect housing quality, then the additional resources were not profitable from a company perspective. That the rent regulation system did not take housing quality into account, is one explanation why the strategy of neglecting maintenance could be profitable in a situation with housing shortage. A reputable and responsible landlord must be preferred in rent negotiations, compared to owners who provide poor property management.
- It is central to clarify the housing company's social responsibility, as the costs to society were much reduced by the housing company's approach.

References

- Andersson, R. Molina, I. Öresjö, E. Petersson, L. Siwertsson, C. (2003) Large housing estates in Sweden. Overview of developments and problems in Jönköping and Stockholm. Utrecht University.
- Andersson, R. Öresjö, E. Petersson, L. Holmqvist, E. Siwertsson, C. Solid, D (2005) Large housing estates in Stockholm and Jönköping, Sweden. Opinion of residents on recent development. Utrecht University.
- Alfredsson, B., Cars, G.(1996) De boende som medarbetare. Självförvaltning i Holma. (Malmö). SABO.
- Ball, M., Harloe, M., Martens, M. (1990) Housing and social change in the Europe and the USA. London: Routhledge.
- Beckenhoven van, E. (2006) Decline and Regeneration. Policy responses to processes of change in post-ww11 urban neighbourhoods. Utrecht University.
- Blomè, G. (2006) Kundnära organisation och serviceutveckling i bostadsföretag. Kungliga Tekniska Högskolan.

- Blomé, G. (2008) Herrgården: Ett levande bostadsområde I förändring, Lisberg Jensen, E. Pernilla Ouis (red). Inne & Ute i Malmö, Studier av Urbana förändringsprocesser. Urbana Studier, Malmö Högskola.
- Blomé, G. (2009) Lönsamhetsanalys av Stena Fastigheter förvaltningsorganisation. Kungliga Tekniska Högskolan.
- Blomé, G. (2010) Local housing administration models for large housing estates. Property Management, Vol. 28: 120-138.
- Brindley, T., Rydin, Y., Stoker, G. (1989) Remaking Planning: The Politics of Urban Change in the Thatcher years. London.
- Brown, B., Perry, S. (1994) "Removing the financial performance halo from Fortune's "most admired" Companies." Academy of Management Journal, 37 (5): 1347-59.
- Carlén, G. Cars, G. (1990) Förnyelse av storskaliga bostadsområden. En studie av effekter och effektivitet. Byggforskningsrådet.
- Crisholm, J. (2000) Benefit-Cost Analysis and Crime Prevention. Australian Institute of Criminology.
- Dubourg, R, Hamed J, Thorns, J (2005) The economic and social costs of crime against individuals and households 2003/04. Home Office Online Report 30/05.
- El-Haram, M., Homer, M. (2002) Factors affecting housing maintenance cost. Journal of quality engineering. Vol. 8, Iss. 2; pg 115.
- Eriksson, B.J. (1995) Valstaprojektet - Utvärdering av förbättringsarbete i ett miljonprogramområde. Forskningsrapport 95:1, Högskolan i Karlstad.
- Karlsson, A. Cars, G. (1997) Holma, Malmö; Partnership for Urban Renewal. Guinchard, C. G. (Ed.). Swedish Planning. Towards Sustainable Development (pp.51-60). Gävle: Swedish Society for Town and Country Planning.
- Gibbons, S. (2004) The costs of urban property Crime. The Economic Journal, 114: 441-463.
- Gumesson, E. (2004) Fallstudiebaserad forskning. Kunskapande metoder inom samhällsvetenskapen. Studentlitteratur, Lund.
- Hallin, P. Jashari, A. Listerborn, C. Popoola, M (2010) Det är inte stenarna som gör ont. Röster från Herrgården – om konflikter och erkännande. Mapius. Malmö Högskola.
- Harris, D. R. (2009) Property Values drop when Blacks moves in... racial and socioeconomic determinants of neighbourhood desirability. American Sociological review, 64 (3).
- Hedin, K. (2010) Gentrifiering, socialgeografisk polarisering och bostadspolitiskt skifte. Lunds Universitet.

- Holthausen, R. Larcker, D. (1992) "The prediction of stock returns using financial statement information." *Journal of Accounting and Economics*, 15(2/3): 373-411.
- Keizer, K., Lindeberg, S., Steg, L.(2008) *The Spreading of Disorder*. Faculty of Behavioural and social Sciences, University of Groningen, The Netherlands.
- Lind, H, Lundström, S. (2008) *Affären Gårdsten – Har förnyelsen av Gårdsten varit lönsam?* Kungliga Tekniska Högskolan. Stockholm.
- Lind, H, Blomé, G (2011) *The return of the Swedish Slumlord: Analysis of a recent case*. Royal Institute of Technology.
- Margolis, D.J., Walsh, P.J. (2001) *Misery Loves Companies: Whither Social Initiatives by business?* Harvard University.
- Margolis, D.J., Walsh, P.J. (2003) *Misery Loves Companies: Rethinking Social Initiatives by Business*. Johnson Graduate School of Management, Cornell University.
- Molina. I. (2001) *Den rasifierade staden*, Magnusson, Lena (red), *Den delade staden. Segregation och Etnicitet i stadsbygden*, Borea, Umeå.
- Nilsson, I., Wadeskog, A. (2008) *Det är bättre att stämma i bäcken än i ån. Att värdera de ekonomiska effekterna av tidiga och samordnade insatser kring barn och ungdomar*. See AB. Sverige.
- Nilsson, J. (2007) *Ekonomiska effekter av trygghetsåtgärder i bostadsområden*. Kungliga Tekniska Högskolan. Stockholm.
- Pettersson, L. (2001) *Location, housing and premises in a dynamic perspective*. JIBS Dissertation Series, No.010, Jönköping.
- Pettersson, L. (2002) *Ekonomisk utvärdering av "100-jobben"*. Working paper, Internationella Handelshögskolan i Jönköping.
- Popoola, M, (1998), *The social interplay on Romano Platso*. Lund dissertations in sociology, Lund.
- Popoola, M (1999) *Trångt i Herrgårdsmiljö. Rapport om trångboddhet på Herrgården*. IMER Malmö Högskola.
- Power, A. (1999) *Estates on the edge*. Basingstoke, UK.
- Ristilammi,P-M (1994) *Rosengård och den svarta poesin : en studie av modern annorlundahet* . Östlings förlag, Stockholm.
- Ristilammi, P-M. (2007) *Urban globalisering i Öresundsregionen. Mångkulturalitetens varierande grader av synlighet*. Malmö Högskola. Malmö.
- Ross, C.E. Mirowsky, J.(2001) *Neighbourhood Disadvantaged- Disorder and Health*. *Journal of Health and Social Behaviour*, 24 September.

Scott, S., Knapp, M., Henderson, J., Naughan, B. (2001) Financial cost of social exclusion: follow up study of antisocial children into adulthood. Department of Child and Adolescent Psychiatry, Institute of Psychiatry, King's College London. UK.

Syme, S.L. (2003) Income Inequality, Socioeconomic Status and Health: International Evidence. Presentation to Inequality and Health Conference, Washington.

Wilson, A., Uncapher, J., McManigal, L., Hunter Lovins, L., Cureton, M. Browning, W.D. (1998) Green Development: Integrating Ecology and Real Estate, Wiley, New York.

Wilson, J., Kelling, G. (2003) Broken windows: The police and neighborhood safety. Criminological Perspectives: Essential Readings; 2003, p400-411, 12p.

Öresjö, E (2006) Konsten att dra åt samma håll. En rapport om Råslätt i Jönköping. SABO.