Mixed Use Development, Investment and Management
Perceived problems in the UK and an exploration of schemes in Germany

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Acknowledgements

The research for the case studies partly relied on the input of professionals who took time to answer questions and offer opinions. They have therefore greatly contributed to this thesis. I would like to thank Mr. Brendgen, Mr. List, Mr. Stehlmann, Mr. Herrström and Mr. Thiel.

I am also grateful to Professor Michael Edwards, his colleagues and all the staff at the Bartlett who have provided an environment which enabled me to spend an inspiring year of intense learning, researching and debating.
Abstract

This thesis investigates and assesses problems mixed use developments face in terms of development, investment and management. Three case studies from Germany are then investigated in regard to these problems.

The first part describes the important features of mixed use developments. After identifying the objectives for promoting these schemes in the UK, general forms of implementing a mix of uses in the built environment are explored. Also, issues of different scales of these environments are described. This leads to a brief assessment of density and physical configuration of mixed use schemes. The definition of mixed use developments in the context of this thesis concludes the first part. It states that these developments have to have three or more uses, should be coherently planned and realised and are supposed to be developed with the objective to become a place and destination, benefiting their surroundings.

The second part assesses problems mixed use developments are facing. During their development the specialisation of developers and determining the right mix of uses are challenging. Also, the accommodation of the different uses is an issue. Financing these schemes poses several challenges as well. They frequently require long financing periods, high equity, large capital sums, and face the demand for risk premiums by lenders. Another challenge is the traditional allocation of assets by institutional investors, which makes them reluctant to invest in these schemes. The complexities of managing these developments and reservations of end-users pose additional problems.

The case studies then offer some insights in mixed use developments in Germany. They are Q205 in Berlin, FrankfurtHochVier and Bavaria in Hamburg. Besides their planning the developer set up and the issues of determining and accommodating uses are described. Also, financing, investment and management issues are outlined. Final conclusions then reflect the findings in regard to the problems previously identified.
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Introduction

The mixing of uses on the local level has always been important in the history of urban development. The original settlements in Asia Minor featured it as well as the first planned towns in the UK by the Romans (Coupland, 1997). During the Middle Ages, specialised activities evolved and buildings from that time started to accommodate different uses. But, the specialisation later led to a pattern of zoning since similar activities clustered together in localised areas. The first type of forced zoning appeared in the form of a re-arrangement of certain uses like butchers or fishmongers, which were assigned to localities where their trade did least harm on the resident population (Coupland, 1997). During the industrialisation, factories were added to the different uses in cities. Their emissions created unpleasant and sometimes dangerous conditions for the residents of surrounding areas and often forced them to leave. With the rise in trade and commerce, remaining residential populations were often displaced and the areas became mono-structured business districts. The development of mass transport at the end of the 19th century then led to an expansion of cities, further segregating the different uses. Especially areas solely used for housing were created in suburban regions. Zoning was then manifested in the planning system, following the international trend of zoning, which was marked by the Charta of Athens published in 1933. It described a strict separation of living, working, spending leisure time and additionally separating pedestrian and car traffic.

Since the 1960s criticism evolved, recognising the negative and regressive consequences of simple zoning approaches to town planning (Rowley, 1996). The contribution, a mix of uses and activities could make to the quality of local environments was emphasised.

During the last ten years large scale mixed use development has become an important and much discussed topic in the UK property world. The mixing of uses in new developments of considerable size has been around longer in other countries and cultural contexts. In the US for example the first edition of the mixed use development handbook was published in 1976 (Witherspoon et. al., 1976). In the UK the issue has been brought forward by the government in the early 1990s. Its main objective of promoting mixed use development was to revitalise run-down parts of cities. In the 1980s a lot of these areas suffered from desinvestment, dereliction and deprivation. To a great extend this was caused by the collapse of the manufacturing industry and the suburbanisation process. These structural changes caused high unemployment and a flight from the cities by the better off. Mixed use development was perceived as an appropriate vehicle for regeneration, instantly creating vibrant and diverse neighbourhoods to work, live, shop, be entertained and spent leisure time.
Even though there have been improvements due to experiences with completed schemes, the issues evolving from mixed use properties are still often seen as problematic. Developers in the UK are for example mostly very specialised on certain property types. Financing and investment institutions usually allocate their funds on a traditional basis and therefore prefer single use developments. Also, planning issues and the involvement of many parties bear additional risks and usually lead to a lengthy development process, which can cause financing problems.

The subject of this thesis is to explore the ‘problematic’ issues of developing, financing and managing these schemes and look abroad to examine how they are approached elsewhere.

The thesis’ structure is as follows. After the methodology, the background of the promotion of mixed use development in the UK is outlined. Then the forms of implementing a mix of uses are described. This is followed by a categorisation of the scales of mixed use, which is followed by an overview of the physical configuration of these schemes. A definition of mixed use developments concludes the first part. The second part assesses the different problems mixed use developments might face. This is followed by the third part, which explores the case studies and draws conclusions.

**Methodology**

Part one and two of the thesis describe and discuss desk research conducted on mixed use development in the UK. The problems arising from these types of developments are mainly taken from several property magazine articles and professional research papers, which were based on developer surveys.

The third part then assesses three case studies in order to investigate the previously identified issues of this type of development elsewhere. The studies were selected after researching mixed use projects in Europe. Books, property magazines, research studies and the internet were sources of information. To investigate the case studies, the usual and reliable mix of methods (Hellstern et. al., 1978) of interviews, site visits - where possible - and evaluation of all available information was applied.

Generally two methodological problems arise from the use of case studies. Firstly, as applicable to all case studies, the limited general evidence they provide. In regard to this it has to be stated that the selected studies are not supposed to show a representative overview of mixed use developments. They are illustrating different approaches to mixed use schemes and investigate how problems identified in the second part are perceived or avoided. The second methodological problem is the comparability of the selected case studies to
the conditions in the UK. Mixed use developments are very complex and their outcomes depend on various factors. These are mainly determined by legislative, political and financial conditions on the national level and structural, organisational, financial, political and social conditions on the local level. Even though these specific conditions are being described when it is relevant, they are not really important. That is because the case studies are mainly to explore the handling of problems. In order to not further complicate the comparability of the projects in the case studies, they were chosen from a single country, Germany. This decision was also influenced by the language, which poses no barrier since it is the author's first.
Part one - Mixed use developments

1.1 Mixed use development in the UK

The original promotion of mixed use developments in the UK was initiated mainly by environmental concerns and objectives. It followed the European Commission’s initiative to improve the urban environment (CEC, 1990), which assessed and favoured mixed use schemes and concluded that the mixing of uses in urban locations is possible and increasingly necessary.

During the 1990s several social, economic, demographic and environmental issues emerged or became more pressing and were acknowledged by the government in its Urban White paper. They were

- suburbanisation, which caused the outward migration of population and jobs from the cities,
- people living longer, having fewer children as well as a rising preference for single households, which was estimated to require 3.8m additional homes by 2020,
- poor quality of life and lack of opportunity in certain urban areas,
- weak economic performance of some parts of cities and
- the need to protect the environment from being negatively affected by more development and avoidable travel.

The holistic approach to these challenges included a wide range of policies and initiatives, which ranged from improving education, supporting local businesses, crime prevention to improvements in transport and the environment.

But, the built environment was perceived as critical in the achievement of urban regeneration. The Urban Task Force stated in 1999 that good design and planning should promote and ensure environments where jobs, shops, leisure and other facilities are in walking distance and less traffic contributes to a more sustainable environment (UTF, 1999).

This has been manifested in several planning policy guidances on the national and local level. Therefore, it can be concluded that mixed use development is policy and planning led and the property industry had to react to this. This in itself is a problem for mixed use developments since the property professions motivation to develop these schemes has largely been forced upon them.
1.2 Implementation of mixed use

Generally, four different areas of mixed use implementation can be identified.

Regeneration/Redevelopment
The regeneration of derelict inner city sites is the most popular form of implementation of mixed use schemes. A study by Savills (2003a) identified that 58% of the schemes in the UK were developed on former industrial sites, docks, rail land or military bases. To effectively regenerate these usually large sites the realisation of a variety of uses is necessary to create more self-sufficient neighbourhoods.

Greenfield development
Urban extensions on greenfields are often very mono structured. An example are suburban residential areas or business parks, which have shaped the outskirts of many western cities. To achieve more sustainable city extensions, they should accommodate a mix of uses. This can decrease the dependency on car use since these areas are often not very well connected to public transport.

Improvement of mono structured areas
Especially large housing estates are often suffering from their one-sided residential use. In order to improve these neighbourhoods, an addition of further uses can be very helpful. Especially the creation of jobs in the neighbourhood is important to support the local economy (Jessen, 1999).

Preservation of an existing mix of uses
Urban renewal and development, especially in attractive and historic areas should always consider the traditional relations between dwellings, shops and services. These long-established configurations are often threatened by developments in the real estate market. Owners and investors are usually seeking maximum returns on their properties and therefore uses which are less profitable are often displaced. Housing for example might be replaced by commercial uses.

This thesis is assessing mixed use developments in regard to regeneration and redevelopment of formerly used urban sites, since it is the most common form of development.

1.3 Scales of mixed use

Jessen (1999) differentiates between three different scales of land use mix. Depending on the spatial boundaries a mix or the separation of uses can be determined on the city, area and project scale. Apart from their scale, the categories are also differentiated by the different levels of planning like regional/urban planning, district/borough planning and site/project Masterplanning. Rowley (1998) offers six scales of mixed use. He ignores the city level and differentiates between areas, street blocks/sites and buildings. He
then splits these categories in large or small projects. To summarise and simplify, three scales of mixed use in the build environment are identified:

City scale mixed use
Regional, metropolitan or urban planning generally determines the distribution of different uses on the city level. Usually residential uses, places of work, open spaces and infrastructure are broadly assigned to certain areas.

Area scale mixed use
The area scale covers districts, neighbourhoods or ‘quarters’. They usually have a dominant use like living or working. To satisfy the needs of these areas, other facilities have to be provided. These include retailing, education as well as amenities for culture and leisure. The provision of these amenities has to be ensured by the local planning bodies or local plans.

Project scale mixed use
Mixed use developments extend to street blocks, construction sites or single buildings. They form a spatial entity and are planned coherently.

The focus of this thesis is the project level.

1.4 Density and physical configuration of mixed use projects

The density of mixed use developments usually depends on their location. In the UK most schemes planned or developed are located in high demand areas of London, the South East and South West (Savills, 2003a). To make these developments viable and contribute to achieve house building targets a high density is necessary. Apart from the financial pressure to use the sites extensively, several social and environmental issues can benefit from a high density (Jacobs, 1961; Barrett, 1996). These issues are also the reasons frequently stated by planners who advocate dense mixed use developments. Firstly, a higher density is likely to increase the social adaptation of the development. If more people use the premises frequently to work, live and spend their leisure time, lively open spaces do not only increase the attractiveness and the sense of place, they also increase the perceived safety because the public realm is better supervised. Also, a higher density is likely to increase the range of different amenities, which can be accessed locally. This contributes to the creation of a destination, which could support efficient and feasible public transport connections. For the immediate neighbourhood, a high density increases the range and scale of services which can be supported. This is likely to reduce the need to travel elsewhere and is therefore environmentally beneficial.

Apart from flats above shops, mixed used buildings are generally the exception in Europe. Usually the integration of differing uses in new developments in the UK takes place on the building/block level
(Savills, 2003a). A finer grain of different uses in single buildings has not been realised. This is in contrast to North America and Asia, where mixed use buildings are more common. Usually high rise buildings house a wide range of uses (Schwanke, 2003). The proposed London Bridge Tower will be one of the first genuinely mixed use high rise developments in the UK and Europe. The 70-storey building will include offices, a hotel, residences, public space as well as retail and leisure facilities. It obtained planning permission in 2003 and construction is set to start in 2007.

The building in section

A distinction between 4 different physical and structural scheme configurations can be made:

**Multi single use buildings**
Several structurally independent single use buildings closely connected by public spaces.

**Multi mixed use buildings**
Several structurally independent mixed use buildings closely connected by public spaces.

**Integrated multi building structures**
These schemes feature mixed use building complexes, which include individual buildings connected by a common structure like an atrium, concourse or shopping complex.

**Mixed use buildings**
A mix of uses contained in one building.
1.5 Definition of mixed use developments

It is difficult to come up with a clear definition of mixed use developments because the term covers a wide variety of developments, which differ more or less significantly in terms of location, scale, type, uses and success. It is still important to extract the main issues of such developments to define them. Therefore several definitions and descriptions are taken into consideration.

The Urban Land Institute (ULI) in America defines mixed use developments as follows:

1. Three or more significant revenue-producing uses, which should be mutually supporting.
2. Significant physical and functional integration of project components, high density and uninterrupted pedestrian connections.
3. Development in conformance with a coherent plan.

(Schwanke, 2003)

The significance of the revenue producing uses means that they should attract a critical mass and do not just serve the site as convenience facilities. Cultural and civic institutions should also draw high amounts of outside visitors to contribute to the creation of a destination.

Knight Frank (2004) defines mixed use developments as schemes with a mix of three or more uses for which planning permission has been granted under a single consent.

A recent study conducted by Jones Lang LaSalle (BCO, 2005), answered the question what a mixed use development is in the following way: it is mainly 'a development approach that enables the creation of vibrant urban forms, high density development and sustainable built environments' (BCO, 2005: 3).

The definition by the ULI is not just defining a mixed use development. In adding several attributes it goes a step ahead and describes an, in their view, optimal form of such a development. The definition by Knight Frank is partly UK focused since in several other countries planning permission is granted for single buildings and not for whole schemes. Since this thesis takes case studies from abroad into account, a definition regarding to the UK planning permission practise is not applicable. The BCOs understanding of these developments focuses on the Government's distinction between the outputs and outcomes of developments. In a mixed use development, the emphasis is not put on the actual form of the development (output), but instead on the creation of vibrant mixed-use environments (outcome).
Three important issues can be identified for a definition of a mixed use development:

**Number of uses**
In accordance with the definitions of the ULI and Knight Frank a minimum of three different uses is chosen. This is sensible because only two uses would not be able to sufficiently support each other and would most certainly fail to achieve the objective to create a vibrant and lively development. However, analysis of mixed use schemes within this rather tight definition in regard to the minimum uses will also help in consideration of the more modest schemes in which only two uses are combined.

**Coherent planning**
The schemes should be planned coherently. This means there should be one plan, which includes all buildings of the scheme. Usually a Masterplan functions as the coherent planning instrument. An overall plan is extremely important to determine the spatial configuration of the public spaces and different uses. It should enhance pedestrian flow in certain areas to benefit uses, which depend on this (retail, leisure, culture, etc.) and create more secluded areas to shield residential parts from too much exposure. This part of the definition focuses on rather large developments. In smaller developments where no Masterplan is prepared the local planning authority ensures the achievement of a mix of uses in the locality of the development. This is realised through its control over every development. Instead of the Masterplan a Spatial Policy Guidance or a Development or Planning Brief is often applied. But, since this thesis investigates rather large developments these issues are not considered any further.

**Creation of a place**
Even though this is not a ‘hard’ factor, the issue of the outcome is of importance since a positive economic and social contribution to the area is the main objective that drove the promotion of these schemes by the British government.

Therefore, mixed use developments in the context of this thesis are:

Property developments, which
- have three or more uses,
- are coherently planned and realised and
- are developed with the objective to become place and destination, benefiting the area.
Part two - Problems in regard to mixed use developments

Although several mixed use developments were completed over the last couple of years and lessons have been learnt from them, several issues are still perceived as problematic in the UK. This conclusion can be drawn from several professional reports, which were based on developer surveys and the coverage of these problems in the property press. The problems and challenges are categorised in three groups, development, investment and management.

2.1 Development

The fact that property developers are usually highly specialised makes them hesitant to develop schemes, which feature uses they are not experienced in. Also the mix of uses in regard to their different shares of the development and their compatibility and spatial allocation towards each other can be problematic.

2.1.1 Specialised Developers

Like any other private company, property developers in the private sector usually have one main objective: to make direct financial profit from the development process (Cadman et. al., 1995). Depending on their size, developers usually operate as traders or investors. Due to a lack of capital resources, small companies have to trade their developments. Often trader developers, who also aim to capitalise on rising rents and values, evolve into investor developers. This becomes a possibility as successful development enables them to retain profits - and thus developments - for investment purposes (Cadman et. al., 1995).

Developers are involved in a wide variety of property types and locations. Usually they specialise in a particular type of development. This specialisation has evolved from the fact that most development in the second half of the 20th century has been in the form of tracts of one type of similar property (Savills, 2005). Also, the increased complexity of planning and building regulation requirements as well as specific building technologies have contributed to the specialisation (Sim, 1994). Today every developer usually has a certain expertise, regarding a specific type of property. Generally the industry is divided in residential, office, retail and industrial developers and investors. In the residential sector there is even a separation between public/affordable and private housing. In specialising, developers also minimise risk, which is an inherent part of the property development process. They know the peculiarities of their 'type' of property and are therefore less likely to commit errors which might delay and therefore threaten the viability of a project. However, mixed use developments can also be seen as a possibility to reduce risk if the developer has the flexibility to change the balance of uses. In doing so, he can adapt to market pressures or exploit opportunities.
According to Thame (2005) property professionals in the UK agree that the specialisation of the property profession is the main problem in regard to mixed use development. His sources state, that even large commercial developers who have teams of specialists often do not use them in an effective way since they don't communicate sufficiently with each other. But, the pressure to develop mixed use schemes forces them to approach these developments. Still, they usually start from a certain mind set. The executive director of Akerler, an office developer, admits that mixed use is, for them, just another way of doing major office schemes (Thame, 2005). Their perception of these schemes is offices plus residential, leisure, hotels or whatever planners want. They define themselves as an office developer who is just responding to market demand and public policy. These kind of approaches can result in unsatisfactory outcomes because the emphasis is on a single use and the possible synergies and benefits different uses can have on a development might not be exploited.

In 2003, 49% of mixed use schemes were developed by residential property developers, while 42% were realised by commercial property companies (FPD Savills, 2003a). Only 11% were being undertaken by partnerships, which aimed to profit from each others expertise in the different property types. Still, the danger of both partners just looking at their share of the development exists and therefore the maximum gain in economic, social and environmental terms is hardly ever achieved. However, Knight Frank (2004) suggests that single sector developers will largely become a thing of the past. There is some evidence for this assumption. Berkeley Homes for example, one of the largest housing developers in the country, announced in 2004 that they would be shrinking the company and turning itself into an urban regeneration company, abandoning its traditional focus on house building (Barnard, 2004). However, this seemed to be at least partly driven by the overheated market for residential sites, leaving rather complicated larger schemes more viable since they attract less competition from other developers. On the other side, commercial developers are founding residential divisions in order to have more expertise to develop all elements of mixed use schemes. AMEC for example, a commercial developer and contractor, has recently set up a new residential division. Until now they formed partnerships with house builders who developed the residential parts of their schemes (Roberts, 2005a). This trend has recently also been followed by developers Laing O'Rourke and Bovis Land Lease. While the former set up a house building wing, the latter bought Crosby Homes from Berkeley.

2.1.2 Mix of Uses

2.1.2.1 Share of uses

The relations, dependencies and interactions in the urban structure are extremely manifold, complex and ever-changing. Every mixed use development is located in a very distinct and individual location,
which has different constrains and opportunities. Therefore, every site has to be carefully examined in regard to its characteristics and relations to the surrounding area. Also, the qualities of the uses differ according to the location. In some areas close to commercial districts, the demand for corporate offices is likely to be higher than the demand for commercial space, which is adequate to accommodate local businesses. Therefore it is impossible to determine a certain formula, generally applicable for mixed use schemes (Kay, 1999). But, not only the external conditions must determine the uses implemented in the scheme. It should aim to generate its own demand, which is one thing developers need to understand more in order to develop a successful scheme, which becomes a destination (FPD Savills, 2003a). Obviously, a certain size, critical mass or customer magnet is needed to achieve this. Schwanke (2003) also mentions that each element of the project should be able to stand on its own as a marketable and financially feasible component, and the calculation should not overstate possible synergies or competitive advantages. Obviously this collides with the main aim and concept of mixed use developments which is to emphasise and build on externalities and synergies. But, it is an issue in regard to a cautious approach to financing. While the schemes should aim to achieve the highest benefit from the composition of uses, their positive outcome in terms of financial gains should not be the part that makes the scheme feasible.

Overall there are two main sides trying to influence the share of different uses. One is the developer, whose objective is to gain a maximum profit from the development and the other is the local planning authority. The developer desires to raise the share of the most profitable use to the maximum. The council on the other side, has to follow central government guidance and tries to ensure that the scheme will benefit the local community as much as possible. This is usually reflected in a big share of affordable housing or small office space for local companies. But, even though both sides want to accomplish their goals to the greatest extent, they have to recognise, that their ultimate goal is unlikely to be beneficial to the success of the scheme, since a domination of one use is likely limit the synergy effects of the uses should have on each other. Consequently, a compromise has to be found.

According to research, mixed use schemes in the UK are dominated by residential use (FPD Savills, 2003a). The proposed residential use by area was on average 58%, while offices had a share of 31%. Retail (6%), Industrial (3%) and Leisure(2%) were the complementary uses. The share of affordable housing was between 0 and 80% of all residential units, with an average of 36%. And while offices were found on 71% of the sites, 56% included an element of retailing. About half of the developments included leisure uses, a quarter have integrated hotels and 17% included industrial uses.
Why the residential part is dominant is obvious. Firstly, housing is usually promoted and required by the local planning authority. Even though regional and local policies differ, the national planning guidance has a wide range of planning policy guidelines (PPG), which are concerned with mixed use development and housing. The most important is PPG3, which advocates the use of vacant land within urban areas for housing, to assist with the regeneration of those areas. The other reason is the buoyant housing market. At least it has been. Housing is perceived as a main factor for the financial viability of successful schemes (Eade, 2004). With house price growth slowing over the last two years, financing problems might lie ahead. Lacey (2005) recently reported, that discounts and incentives are being offered for house builders, to maintain the required levels of turnover.

Generally, the determination of the different uses and their shares is not a problem. But it is a challenge, which has a great impact on the outcome of the project. Therefore, it is important to investigate how the share of uses is determined elsewhere.

2.1.2.2 Accommodation of uses

If the mix of uses is finally determined, the spatial configuration of the uses is another important issue. Even if the new development is supposed to be a destination, which will be self-sufficient, its economic, social and spatial implications on the adjacent areas should be taken into consideration. This is important to gain local acceptability and support for the development as well as to blend into the spatial structure to generate pedestrian flows from the adjacent areas, which will additionally benefit the project.

But, the internal design of the scheme is very important as well. A design, which enhances the use of open space and exploits the synergies of the different uses is essential. The uses have to be carefully integrated and not just placed. Since a main aim of mixed use schemes should be the creation of vibrant and lively neighbourhoods, the determinants creating these qualities have to be assessed. Jacobs (1961) describes several main conditions, which are necessary to create a vibrant street life. Even though these conditions were derived from observations of certain urban neighbourhoods in the United States during the 1950s, they are still valid, since they are still present in many vibrant neighbourhoods today.

- The area must have at least two uses, preferably as many as possible.
- The groups using the area should use the place for different purposes and have different schedules in regard to coming and going.
- The users should also be able to use many facilities in common.
- The buildings or blocks should be short, to create many opportunities to turn in order to use the space in diverse ways.
- The area should feature different buildings in regard to age and condition in order to accommodate uses of different economic strength.

- Different tenures and multiple owners should be prevalent.

- The different uses and economic classes should be close grained.

- There has to be a sufficient density.

Basically all these preconditions can be met through careful design of the project. However, buildings of different age and condition are usually not apparent in mixed use developments since they are mostly developed on vacant sites. Still, through subsidisation, economically weaker tenants can be accommodated and kept in mixed use developments. This is for example the case in the Brindleyplace development in Birmingham, which was developed and is now being managed by Argent. They are 'willing to do deals to keep key businesses on site' (Roberts, 2005). They do this of course only, when the overall return is not seriously affected.

Generally it might also be difficult to implement different tenures and make ownership available for a variety of uses. At least this applies to large mixed use developments, since they are usually treated as 'one' investment.

Another problematic issue in regard to Jacobs' conditions is the creation of a close grain of different uses. As stated, the integration of uses in new developments in the UK usually takes place at the block level. A fine grain integration of uses is not yet being replicated. Especially the integration of different uses in one building is seen as problematic. However, distinctions between the compatibility of different uses have to be made. While offices, retail and other non-habitable uses have already being integrated regularly, residential uses have hardly been implemented in mixed use structures. Sim (1994) concludes that residential accommodation is generally unsuccessful when located in the same structure over commercial uses. If it is carefully designed though, it can work. Additionally, distinctions have to be made between different residential uses. Since affordable housing is almost always required in mixed use schemes the question of integrating or separating it from the free market housing arises. Even though the mixing of affordable and free market housing is socially desirable and required by many local authorities, developers are hesitant to do it. That is mainly due to the impact on the values of private flats (Macdonald, 2005). In a recent scheme in Pimlico, London, the house builder Taylor Woodrow separated private and affordable flats. Their reason for this was to focus 'on achieving high private values to subsidise the affordable housing' (Macdonald, 2005: 46). In their view this was successful since they have sold the private flats for very high prices.
2.2 Financing and Investment

2.2.1 Financing of mixed use developments

Due to various complicating matters, the financing of mixed use is challenging. Compared with single use projects, they frequently require longer financing periods, higher equity requirements, larger capital sums, and face the demand for risk premiums by lenders (Schwanke, 2003).

Long development and financing phase
Mixed use projects often require a much longer development time than single use projects. Examples are the Paddington Basin, Kings Cross and Elephant and Castle in London. These schemes were first conceived decades ago, but still have not been finished or construction hasn't even started (FPD Savills, 2004). Even though these projects are extremes in terms of development time, they illustrate the time span, developers and financing institutions may have to commit to these schemes.

High equity requirements
A consequence of the long development phase is the need for a sufficient equity base. Often developers face payments to cover land or option costs, planning fees, market and feasibility studies and other costs before financing has been ensured and long before any income can be enjoyed. Additionally, mixed use schemes are still often not well understood and therefore perceived as risky by many financial institutions (BCO, 2005). Therefore higher levels of equity are required by the lenders than for single use developments.

Large capital requirements
The size of most mixed use developments means that large sums of money are required to develop these schemes. Consequently only a limited number of developers and financial institutions have the resources to finance these projects. Due to their risk averseness, many institutions are also hesitant to be the single source of debt financing for loans of the required size and complexity. For this reason, joint ventures, equity partners and multiple financing sources are needed to successfully finance a project.

Risk premiums
Due to these complicating factors, lenders seek higher returns on mixed use projects to offset the higher risk. This demand is additionally strengthened by the fact that the schemes are usually very unique and generally, a significant return premium is attached to non-standard developments (Schwanke, 2003).

An important issue regarding all aspects above is the cost of the land. Like in any real estate development, this is usually the first and
- besides building and financing cost - one of the main financial commitments. Since mixed use developments take a very long time to develop, the land cost can be crucial to the success of the development. The time span after purchasing a site and before receiving any income from the development is substantial and therefore the financing of the site can be very expensive. The Brindleyplace development by Argent is mentioned as one of the developments, whose success is related to the initial low cost of land (Knight Frank, 2004). The £ 3m, which were paid for 6.9 hectares of derelict land to the west of the city centre in Birmingham, were considered a lot of money in 1993. It also made up a major part of the £ 8m expenditure, Argent faced before enjoying any income (Madelin, 1999). But, after evaluating the whole project, the land cost was very low. It has to be mentioned though, that the project created not only a whole new neighbourhood and destination, but it also delivered a critical mass of quality office space to the west of the city (BCO, 2004). This resulted in overall higher realised rents in Birmingham and the reconfiguration of the core office market. Additionally, the low site price was an outcome of the circumstances. Argent bought the site from the second company that had run into financial difficulties while owning the site. The problem that seems apparent in regard to the land cost is the fact that it is very hard to predict the outcome of the scheme and therefore problematic to predict and calculate a feasible land price. However, as stated before, the calculation should not overstate possible synergies or competitive advantages (Schwanke, 2003).

All the above issues constantly threaten the success or even the possibility to develop a scheme. Additionally, the development funding is usually provided by a relative small group of private sector specialised companies. They draw their own funds and may also be able to draw on shareholders funds through rights and bond issues. Since they are often perceived as high risk and, when listed, will often be traded at a discount to net asset value. Therefore, their ability to draw down funds might be problematic during downturns in the property cycle, which does not cope well with the forward funding of large schemes over a long period of time (FPD Savills, 2004). Also, property companies are usually taxed on their activities. Since assembling land for the site acquisition takes a lot of time, letting and management of existing properties often occurs. Profits from these activities are usually retained to fund following development phases. However, these activities are being taxed (FPD Savills, 2004).

To ease or avoid these problems, the phasing of mixed use schemes has been mentioned (Eade, 2004). The key to success is supposed to be getting the right property types built in the right order, so that a completed element can be sold to finance the next phase. However, this can be problematic, since developers might be pres-
sured to quickly develop parts of the schemes or sell plots in order to survive financially. This can affect the outcome of the development negatively since the overall planning might suffer from a split up development.

According to Lacey (2005), development financing has recently been re-emerging. Special attention has been given to mixed use schemes, which is mirrored in the fact that private equity houses, banks, funds and overseas investors are looking into development opportunities in this market. Also, funds to finance joint ventures are being set up. An example is the Elephant and Castle redevelopment scheme in South London. Blackfriars Investments has attracted institutional and bank finance to secure the financing of the scheme. But, since the housing market has slowed considerably, the funding of mixed use schemes can be endangered again because they are usually dominated by residential uses.

2.2.2 Investment in mixed use developments

Since the principle drivers of mixed use are social, economic and political pressures, no strong investor or occupier demand can be detected for these schemes. This has several reasons.

Property investment in the UK has traditionally been dominated by institutional investors. Investment in mixed use properties has therefore been difficult because these investors tend to allocate their assets in a traditional and risk adverse way (Northedge, 2005). They also often use modern portfolio theory, which analyses property investments by sector. A snapshot of the portfolio is usually analysed and the base for the decision, what uses should be invested in over the next period. This forms a barrier to mixed use, since it is traditionally not analysed as a separate use class and consequently does not fit into existing models. Also, decisions to invest in one property type can not be satisfied by mixed use properties, since they always feature several uses.

Even though research has identified that buildings in mixed use schemes have shown better investment returns over the recent past (FPD Savills, 2003) than properties in conventional projects in comparable locations, there seems to be a general lack of robust and quantifiable measurements of mixed use asset performance. This has been another key constraint, which prevented investment in these schemes (BCO, 2004). This is especially apparent in the UK, where a mixed use category is not provided in the standard Investment Property Databank (IPD) like it is in Germany, the Netherlands or France.

Another problem of these schemes is the fact that their outcome or success sometimes takes a very long time to show. Yolanda Barnes
of FPD Savills is quoted (Kay, 1999) "The value comes at the end of the project which could take 15 years for a major scheme".

The reluctance of institutional investors is reflected in a survey carried out by FPD Savills (2003). Of 35 selected mixed use developments, only six had involvement of institutional investors. This lack of institutional demand leads to lower capital values and the perception, that these schemes are more risky since few institutions are willing to invest in these schemes. Lower capital values also limit the resale potential of a scheme and therefore reduce possible exit routes. Additionally, most of these institutional investments were made in a combination of offices and retail space. This is in contrast to the majority of schemes, which are led by residential uses. The residential dominance in itself can lead to problems for investing in mixed schemes. Investors have traditionally been hesitant to invest in residential properties, since their management is extremely cost intensive (Northedge, 2005a). And another issue in regard to residential uses is the fact that their leases regularly run for 99 years. This is in contrast to office or retail leases, which usually only run for 25 or 15 years respectively. This is a major barrier because the redevelopment or refurbishment of a scheme is difficult to carry out with the residential leases still running.

A danger for future developments might be an effort to appeal to institutional investors and therefore compromise schemes, for example dividing uses which would be suitable to each other.

2.3 Management

In a survey of major property investors and lenders (BCO, 2004) the majority strongly agreed on the fact that mixed use developments create higher management cost and require a co-ordinated management approach. This is obvious since different tenures, tenants and users can not be managed in the same way. Additionally, problems arising from conflicts between these groups have to be solved to prevent unsatisfactory conditions, which might lead to declining tenant demand and falling rents. However, a lot of potential conflicts can be avoided during the planning and design phase.

But, managing these schemes is not just about preventing or solving problems. It is also about increasing its value. The function of the scheme as a destination, which attracts a lot of users can be enhanced by borrowing techniques used in retail mall management (Northedge, 2005b).
2.4 Perception of end-users

One of the most important issues and the major determinant for the success of mixed use developments is the acceptability and demand by the end users. Here, the main problem is the residential part. Mixed use schemes regularly feature dense urban forms of living. While there are several advantages of inner-city living, they usually only appeal to younger people. King Sturge (2004) identified these advantages in interviews with urban dwellers. They were (in order of importance as mentioned in the interviews) easier travel to work, greater choice of things to do, greater choice of nearby restaurants, being close to major shopping centres, good public transport services and having pubs and clubs nearby. Rowley (1996) confirms the fact that preference for city living is a minority taste, but he also acknowledges that a changing social structure may increase the number of people who choose to live in the city.

To actually gain an inside view of peoples perceptions of mixed use developments, a survey by CB Richard Ellis / Hamptons International, carried out by NOP (Roberts, 2005), is helpful. A representative group of the UK population was questioned.

Even before the mix of uses was examined, a reluctance of social groups to share space became apparent. Almost 70% of social housing tenants would not be happy to share a property development with wealthier, private homeowners. On the other side about half of the private homeowners stated that they would not like to share with social tenants. But, the majority agreed on the disliking of residing in a mixed use development. While three quarters of residential tenants would not be happy to live above offices, this figure raises to 80% if shops are exchanged for the offices. The rate rises even up to almost 90% if people are asked if they would be happy with entertainment facilities below their apartments. Another issue is the promoted density, which often can only be accomplished by high rise buildings. Around 90% of the survey respondents preferred to not live in a high-rise development. Also, about 50% are worried about the security in a mixed use development. Business occupiers don’t seem to have a preference in regard to people living above their premises. 50% would not mind apartments above their premises, while the other half would. However, 64% would not be happy, if these tenants were renting social housing. And while about 50% would not be happy to share amenities like lifts and shops with homeowners and tenants, the majority of around 70% of business occupiers prefer a mixed use environment.

Therefore mixed use developments receive rather negative ratings. But, one has to keep in mind, that the finished developments only make up a minimal percentage of the stock. Also, as said, changing lifestyles and appealing inner city environments can make urban living a desired form especially for younger people.
Part three - Research and conclusions

3 Case Studies

While researching case studies it became apparent that not a lot of mixed use developments have been realised or planned in Germany. Still, the selected examples are comparable to projects in the UK and problems identified so far can be investigated.

3.1 FrankfurtHochVier (Frankfurt4)

Location
The project is situated in the city centre of Frankfurt am Main. The city has a population of 656,000 and is the fifth largest in Germany. It is the largest financial centre in continental Europe and has the third largest airport in Europe. The project site is located in the Innenstadt borough between the streets Große Eschenheimer Straße and Zeil, which is the shopping street with the highest sales in Germany. The site has good public transport connections with three underground stations in walking distance.

Developer
The scheme is developed by MAB a Dutch company. Their first development in 1978 was a genuine mixed use development in The Hague called 'Babylon' due to the versatility of the project (www.mab.com). It incorporated retail, offices, a hotel and leisure facilities. Since then 54 projects in nine European countries were realised or are being developed. 21 of these projects have three or more uses and three projects have as many as six different uses. 18 projects are single use and overall the majority of schemes (46) incorporate retail facilities (see appendix). Therefore MAB can be described as an 'all-round' developer. Why they have not specialised on one certain use can only be assumed. But it seems that since their first project was a complex mixed use development, which incorporated different uses in a single structure, they got experience in a field in which not many developers were active and exploited this niche.

Site before demolition
Source: http://upload.wikimedia.org
Site
The 1.74 ha site was owned by Sireo Real Estate (formerly Deutsche Telekom Immobilien) and acquired in 2002 for 230m euro (Alexander, 2004). It contained a high rise office complex from 1949 and the remains of the Thurn-und-Taxis-Palais from 1734, which was mainly destroyed in the Second World War. While the office complex is being completely demolished the remains of the Palais are being dismantled and will be part of a reconstruction of the whole Palais.

Planning
When Deutsche Telekom gave up its operations on this site a redevelopment was immediately considered. Since the city has the Planungshoheit (the sole right to plan) first objectives for the new development were formulated (List, personal communication). These objectives were a mix of uses focusing on retail, office and housing, a high density and the reconstruction of the Palais. The uses to be implemented were residential, office, retail, leisure and catering. In 2002 an urban design competition was held by the city. The purpose of the competition was to develop the basis for the Bebauungsplan (obligatory building plan). Seven international architects were chosen to make design proposals, after an initial assessment of over 50 entries from Europe. The architects KSP Engel und Zimmermann won the competition (Alexander, 2002). Another competition entry from Fuekas Architects received an honourable mention (picture). Building on these designs, the Bebauungsplan was developed in cooperation with the developer. This is not a common procedure since the planning department usually develops the plan on its own. Both architects were then commissioned by the developer to realise the project.

![Image](image-url)

Competition designs: KSP Engel und Zimmermann (left) and Fuekas Architects
Sources: www.ksp-architekten.de, www.fuekas.it

Development
The current programme for the development projects a floor area of 127,500 sq. m (~1.37m sq. ft.) (MAB, not dated). This is divided in 47,000 sq. m (505,900 sq. ft.) for shops, 20,000 sq. m (215,300 sq. ft.) for restaurants and leisure facilities, another 42,000 sq. m (452,000 sq. ft.) offices and 18,500 sq. m (199,000 sq. ft.) for a hotel and housing. Also, an underground car park with 1,390 parking places will be constructed.
Great emphasis is put upon the visual and spatial integration of the surrounding area. The western entrance will be marked by the reconstructed Thurn-und-Taxis-Palais, which forms a public square. The southern entrance opens in a widening form towards the Zeil providing views into the centre of the development. Generally the passage provides a connection between the Zeil and the Große Eschenheimer Straße.

The accommodation of uses is spread over 4 main building parts of which three are structurally connected. The Zeilforum covers different shopping facilities, gastronomy, event locations, fitness/wellness and a supervised kinderland on six floors. The Tower at the Thurn & Taxis Palais is constructed on the northern part of the mall and accommodates offices and conference facilities on 32 floors while the hotel and boarding homes are realised in a tower to the south. The reconstructed Thurn & Taxis Palais will incorporate gastronomy and event facilities. Also, 1,390 car parking spaces on 5 under ground floors will be realised.

Demolition of the former buildings has been completed and foundation work has begun recently (September 2005). Construction is supposed to be finished by 2008.

Financing
The scheme is predicted to cost 800m euro (MAB, not dated a). It will be financed by Bouwfonds, which also owns MAB, and Meyer Bergmann. They have formed a 50/50 held project company. Bouwfonds is a subsidiary of ABN Amro Europe’s 11th largest bank. Bouwfonds operates on the private and commercial markets and also has a banking licence. Their activities are largely funded by a secured debt issuance programme with ratings from Moody’s and Standard & Poor’s. They also raise short-term funding under the European Commercial Paper programme (www.bouwfonds.nl). Meyer Bergman is a European real estate investment and fund management firm. Their focus is on significant retail office and mixed use assets and developments (www.meyerbergman.com).
3.2 Q205

Location
The Q205 is situated in the centre of Berlin. With a population of 3.388m the capital of Germany is the largest city in the country as well. The site is located in the borough Mitte. It consists of a building block, which is the only property connecting the Friedrichstraße to the Gendarmenmarkt. It is located between Taubenstraße and Mohrenstraße. The site has excellent public transport connections with two underground lines at the Stadtmitte station, which is directly accessible from the basement.

Developer
Tishman Speyer is an American private real estate company. It specializes in developing, owning and operating office buildings. They are active in the US, Brazil, France, Germany and the UK. In regard to the Q205 they consulted Brune Consulting, a development company for mixed-use retail property.

Site
The rectangular site covers an area of about 8,400 sq. m. The plot was already occupied by a structural shell completed in 1984 (Ungers, 2003). But, the planned East German shopping centre was never finished and its remains were demolished after an examination identified the construction to be unfit for further development (Brendgen, p.c.)

Planning
The planning was influenced by the political and economic conditions of the immediate post-reunification era. During that time a failed ideology left an underused inner-city. Due to a lack of market forces it was never sufficiently developed. This condition collided with unleashed market forces aiming to profit from the rebuilding of Berlins inner city. Population estimates from that time projected a population rise to 5-10m, but that never materialised and current estimates even predict a shrinking population, reaching 3m in 2040. But, the situation at that time put the city in a position to dictate conditions to developers, which they might otherwise not have accepted.
The Q205 is one of three blocks forming the Friedrichstadt-Galerien. The planning objective was to preserve and reconstruct the historic block-edge configuration. But, to strengthen the areas function as a shopping destination, a connected shopping passage was supposed to be incorporated in the three blocks. This was perceived as problematic since a passage running parallel to the Friedrichstraße would relegate it to a secondary status, perhaps even degrading to the level of a delivery street (Ungers, 2003). A competition between 20 development groups was realised to find an optimal concept. Three proposals with architecture by M Ungers (Q205), Henry Cobb (Q206) and Jean Nouvel (Q207) were selected to realise the project. Instead of a passage, the realisation of galleries in each block was proposed. The galleries are accessed from the Friedrichstraße and form 'pockets' opening off the street and leading to the interior of the block. Thus the significance of the street remains undiminished and is even intensified through the addition of interior gallery spaces (Ungers, 2003).

Development
The overall gross floor area is 51,600 sq. m (~555,000 ft²) (www.tishmanspeyer.com). This is divided in 31,708 sq. m (341,300 sq. ft.) offices, 17,100 sq. m (184,060 sq. ft) retail and catering and another 2,792 sq. m (30,000 sq. ft.) for housing. Also, an underground car park covers 1,100 parking spaces.

The spatial integration to the surrounding area was limited by the objective to not depreciate the Friedrichstraße. Only one entrance opens to the main street while two entrances open to the Mohren- and Taubenstraße respectively. Three other entrances (one to the mall and two to the offices and apartments) open to the Gendarmenmarkt.
All uses are integrated in one building structure, which however is separated in different buildings which surround two courtyards. The shopping mall is located on the ground, first and two floors beneath the surface. Parking is located on two floors under the mall. Office uses are located on the second to seventh floor, while the apartments cover the 7th floor. While the mall is spatially divided from the office uses, residents and office workers share the same elevator.

Management
The scheme is entirely managed by Tishman Speyer. There is a total of 108 leases running. Therefore the management is very costly. Generally no problems have been identified in regard to incompatibilities between the uses. This seems mainly due to the design, which separates the uses effectively. The only exception is the joint use of the elevators by the residents and office workers. But, the security concern from the companies were relieved by the fact that the apartments are very exclusive and the residents are not likely to be endanger security. A former problem was a lease with Planet Hollywood, an entertainment and gastronomy restaurant/bar. Noise levels from that establishment caused other users, especially residents to complain (Brendgen, p.c.). But, the problem was solved by not prolonging the lease.

Financing
The project was financed with 30% equity and 70% gearing provided by Citibank. Today Tishman Speyer owns the property jointly (50/50) with the HypoVereinsbank.
3.3 Bavaria

Location
The project is located 2km south-west of the city centre of Hamburg. With a population of 1.73m it is the second largest city in Germany. With several major publishing houses it is a media centre and the port is the second largest in Europe. The project site is located in one of the most deprived boroughs, St. Pauli. Located between Zirkusweg, Hopfen-, Bernhard-Nocht- and Davidstraße, two underground stations with three lines are in walking distance.

![Location of development in Hamburg](Source: www.stadtplandienst.de)

Developer
The developer Wilhelm Bartels Bavaria-Grundstücksgesellschaft mbH & Co. KG is a joint venture by Wilhelm Bartels, Quantum, HSH Nordbank and Baugenossenschaft HANSA. Bartels is the major property owner in St. Pauli, possessing numerous hotels, nightclubs, restaurants and a large housing portfolio. Quantum is a developer specialised in offices, while HANSA is a large housing cooperative. Five of the eight development parts are being developed by the joint venture companies, while the other three are sold to other developers.

Site
The 2.8 ha site was owned by the Holsten brewery group. It contained various administrative and production buildings of the Bavaria
brewery, which was relocated. Except for an office tower from 1978, which is supposed to be redeveloped, all buildings have been demolished. Since structural problems have been identified in the groundwork of the tower its static is currently being investigated. Possibly it will be demolished as well.

Planning
When the end of the brewery activities was announced, the city immediately instructed an assessment for future development. In regard to uses the only objective set for the site was a share of 35% for housing (FHH, 2001). Apart from this demand mainly urban design issues were formulated. Since the site was closed off to the adjacent area especially the opening of the site was emphasised. The new structure of the site was broadly planned by the developer in close cooperation with the planning authorities. On the basis of the structure an international architectural competition was held for the different sites (FHH, 2003).

Development
The current programme for the development projects a floor area of about 117,000 sq. m (≈1,260 sq. ft.) (own calculation). This is divided in 54,000 sq. m (580,000 sq. ft.) for offices, 36,000 sq. m (≈388,000 sq. ft.) for housing, another 20,000 sq. m (215,000 sq. ft.) hotel and 7,200 sq. m (≈77,500 sq. ft.) for retail and catering. Also, an underground car park with 1,200 parking places will be constructed.

Great emphasis was put on the spatial integration of the surrounding area. Formerly being a major barrier to accessing the riverside, two main passages are being created. One is the extension of the Zirkusweg-axis and the other extension of the Taubenstraße through the area.

The development is split up in six areas with eight different projects. On plot Nr. 1 a hotel, offices and gastronomy are being realised in an ensemble designed by Chipperfield architects. Residential uses with ground floor retail uses will be realised on plots 2, 3b and 4a. The architects are Jan Störmer and Steidle & Partner. Offices will be constructed in the Holland-Haus (3a, Mecanoo architects), BavariaOffice (4b, Axthelm Frinken), Atlantik Haus (5, Hezog und Partner, Gerkam Marg und Partner) and the redeveloped Astra Turm (6, BRT).
Demolition of the former buildings has been completed in autumn 2004 and construction of the plots is supposed to be finished by 2007-08.

**Financing**
The total investment volume will be around 250m euro. Every project will be financed independently.

![Animation of Bavarla Development](source: FHH, 2003)

The conclusions of the case studies are drawn in the following overall conclusions.

### 3.4 Conclusion

**Planning and policy led mixed use approach**
The first and one of the most general problems in regard to mixed use developments in the UK was identified as the planning and policy led approach to these schemes. Apart from generally formulated goals about mixing uses no policies or laws require it in Germany. But, as we can see from the case studies a mixture of uses was always required by the local planning authority. Due to the different planning system the power of the authorities in Germany even goes further than in the UK. Especially in Hamburg and Frankfurt the planning departments exercised their rights to plan and influence the outcome of the project from the beginning. An early public consultation of all parties, which might be affected by the scheme, is also required. This can help to identify problems early, raise issues unknown to planners and developers and can therefore have a positive influence on the development. But, this is not an issue solely regarding mixed use developments. And since it is derived from the different planning systems no direct conclusion can be drawn except for the fact than the public consultation of a project should be exercised at a most early development stage.
Specialised developers

The case studies illustrate different possibilities how the developer is set up. MAB is a true mixed use developer. Their expertise has been gained through numerous mixed use developments. Also, they employ various urban planners who develop the initial concepts. This is a major advantage for them and ensures the exploitation of internal and external synergies of their projects. Tishman Speyer is highly specialised but, employed a consultant for the retail part. Since this project they have not been involved in another mixed use scheme even though they perceive the project as a success (Brendgen, p.c.). The reason for this is mainly their specialisation but also the fact that this project was unique in regard to its time and location. If similar opportunities arise they would not be hesitant to develop them. The set up in Hamburg is completely different again. As currently often practised in the UK a partnership is formed and the members basically focus on their specialised fields. This minimises risk but can also result in a split up development. However, this is ruled out as far as possible by the strong and sophisticated planning approach. The Masterplan and the architectural competitions ensure a development, which makes most of the possible synergies in- and outside the development. So what can be concluded for the UK? Guessing from the recent developments and from MAB it seems likely that specialised developers will become a thing of the past. At least the ones who choose to do so. If they are active in mixed use development they will, as MAB, gain more experience and feel more confident about approaching these schemes. But, they have to develop the capacities like employing urban designers in order to make most of the developments.

Share of uses

As stated, the determination of the share of uses is not a problem, but important for the schemes outcome. The conclusion from the case study is that the planning authority had the greatest influence on the share of uses. The realised urban design competitions usually helped to find a solution, but the general political goal was often already a guideline. In Hamburg for example the original target of 35% housing was given by the city council (Stehlmann, p.c.). Now only 30% are realised. This figure was determined by the architectural competition, which could not plan more housing since limitations about density, minimum building distances and the avoidance of noise emissions in regard to traffic had to be taken into account. Also influencing the share is the location of the project. The city centre projects have small shares of residential use, see Chart 1. The
reason for this is a missing policy to add more housing. But, this seems to be the general difference between these and the projects in the UK. In Germany they are also driven by planning, but not necessarily to regenerate and emphasise urban living, but to continue building the city in a contemporary way. And these projects do that by adapting to the surrounding of their locations.

In regard to the type of offices (corporate vs. local companies) no restrictions exist in Germany. But, since the office market requires small units they are offered in all three developments. However, the aim for the Q205 is to reduce the amount of tenants and add the freed space to their main leaseholders. This aims to simplify the management.

Accommodation of uses
In the Bavaria project the accommodation of uses is realised in the way it is in most schemes in the UK. Different buildings containing mainly one use. Still, the two main thoroughfares will have retail uses on the ground floor to replicate the neighbouring district. Residential uses are mostly shielded from these lanes to keep noise emissions from them. FrankfurthVier will mainly be incorporated in one single structure. Since the project is under construction no statement about its outcome can be made but, the Q205 is a good example of the implementation of different uses in one building. Careful architectural design allocates the uses in order to not disturb each other. Still, the fact that some uses are not compatible in one building is illustrated as well since the noise emissions from Planet Hollywood were not acceptable.

Financing
The main problem identified in regard to financing, the lengthy and risky development process, can not be solved. But, as developers will get more experienced with these schemes and have a track record of successful development, lenders are likely to be more willing to finance their schemes. The case studies also offer limited help in this regard. While in the Bavaria project every individual development is realised and financed on its own, the two other projects are undertaken by developers who have either a sufficient financial background or are a subsidiary of a bank. Therefore the developers do not depend on external and expensive financing sources. However, the MAB project is also partly financed by a real estate investment firm, which specialises in mixed use amongst other property forms. This might be an indication for investment institutions getting more involved in mixed use schemes.

Investment
Since the uses are mainly spread over different buildings in the Bavaria development, investment in the different property types will be as usual. In the case of Q205, Tishman Speyer still holds a 50% share, which is due to its success. Advantages of different uses are especially evident to the steady cash flow, which is less dependent on individual tenants (Brendgen, p.c.). But, when Citibank left the project and HypoVereinsbank stepped in, the mix of uses in the pro-
ject was an issue, which was soon overcome because the evidence showed that it in fact had no negative effect on the project. Unfortunately MAB was not available for comment, but two institutional investors were contacted to further explore investment in mixed use. However, comments from MEAG AssetManagement and Deutsche Immobilien Fonds AG (DIFA) (p.c.) just confirmed the reluctance to invest in mixed use. While DIFA invests in different types of property (except residential) MEAG only invests in office buildings. The reasons were, again, the same. Mixed use schemes are not a classical type of investment, the knowledge to handle these schemes does not exist and there is no liquid market for these properties. Also, management of these schemes is too costly and complicated.

Management
The case study just affirmed the obvious: management of these schemes is costly and complicated. It is necessary to minimise conflicts between users but can also be a tool in regard to securing or improving value by giving incentives to key users and therefore keeping them in the scheme.

Summary
Since mixed use developments try to react and adapt to the complications and complexities of life they face a variety of challenges to developers, investors and users. But, if successful, they can be very rewarding for the involved parties. The case studies proved that even abroad they are promoted by the authorities, even though not as dogmatic as in the UK. To ensure the success of a scheme, the case studies illustrated the emphasis put on a thorough planning regime. Usually design competitions offer different solutions and reflecting on those the best solutions were determined. In the case of MAB an all round developer was identified. To build such an expertise a long time involvement is necessary to gain knowledge about all related fields. The financing and investment still seems to be problematic in regard to mainstream investment. But, potent developers and related banks as well as smaller and presumably more opportunistic investment firms will for now provide funding for these schemes.

So one can only hope that mixed used developments currently planned and developed will contribute to the improvement and well being of our cities, which - for their bustling, vibrant, colourful, contrasting, lively, enriching and inspiring environments - we love so much.

3.5 Outlook

Mixed use schemes like the ones assessed in this thesis are still a relatively new form of development in Europe. Additionally, not many of these schemes have been completed. To explore the identified problems further, an investigation of schemes in North America and Asia would be sensible. In these locations mixed use schemes have been developed for a much longer time. Especially develop-
ments which were completed at least ten to fifteen years ago could give evidence about their long term performance. Key issues for success or failure could be identified.

Additionally, all the problems identified and assessed in this thesis could be investigated in much greater depth. Especially a detailed investigation of financing and investment could contribute to remove some of the anxieties of investors. However, this would rely on data, which would be very difficult to obtain. Also, design and construction issues could be investigated further by the corresponding disciplines.
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Mr. Thiel, Property Investment Manager, DIFA Deutsche Immobilien Fonds AG 14.09.05

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www.bouwfonds.nl/corporate/en-gb/Profile_Bouwfonds/Profile/Profile2.htm?NRMODE=Published&NRORIGINALURL=%2fcorporate%2fen-gb%2fProfile_Bouwfonds%2f&NRNODEGUID=%7b68CF8DF4-E7DD-4226-B490-926B91545561%7d&NRCACHEHINT=Guest

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### Appendix

#### MAB Developments since 1978

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Source: www.mab.com