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Published version

KALUZYNSKA, Edyta, DOWD, Anna and DICKINSON, Sarah (2010). An investigation into viability of restoration and reuse of a listed property: a case study of Project Hala located in Warsaw. Sheffield Hallam University Built Environment Research Transactions, 2 (Spec.), 38-49.

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AN INVESTIGATION INTO VIABILITY OF RESTORATION AND REUSE OF A LISTED PROPERTY: A CASE STUDY OF PROJECT HALA LOCATED IN WARSAW

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The purpose of the study is to provide an overview of the methods of restoration and reuse (R&R) of brownfield sites assessment. The research will concentrate on the viability of R&R by comparing a listed building in Poland with a hypothetical new construction development. The research commences with a literature review which observes the methods of economic evaluation of restoration and reuse of buildings, and is followed by a descriptive case study which includes analysis of the information discovered. It was decided that the most suitable approach to examine the viability of a project would be to adopt a residual approach. The findings of the study showed that although there are several methods of restoration and reuse assessment, the practical utilisation of such within the industry were limited. The publications used within the literature review supported the concept of R&R, and the overall perception is that the reuse of buildings serves the key to sustainability. The case study also revealed that R&R is feasible in the current market climate, though demolition and new construction provides a higher rate of return. However, the cost analysis proved the economic climate does have a considerable affect on the level of investment profitability.

Keywords: Listed Building, Poland, Restoration, Retail Performance, Reuse.

INTRODUCTION

Over the past few years developers and investors have been paying more attention to brownfield sites or sites developed with underutilised or derelict buildings. These properties often have historic value and in many cases are listed. Therefore issues of legislative compliance and heritage constraints, including proposals to demolish them in order to undertake new development on the site where those properties are located; or requirement for interventions such as facade retention, may discourage potential investors from development on such sites even without prior examination of viability of that investment opportunity.

There are few possible approaches towards such properties, if demolition and new construction are not allowed. These approaches include:

- Restoration – a process that returns a building to the condition it was when originally constructed;
- Renovation – modifies a building so that it meets current standards and does not involve a change in use;
- Reuse or adaptive reuse is a combination of improvement and conversion. Bullen (2007) defines adaptive reuse as finding a new use for a building. It is “a process that retains as much as possible of the original building while upgrading the performance to suit

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modern standards and changing user requirements". It may include renovation and rehabilitation of existing building or structure.

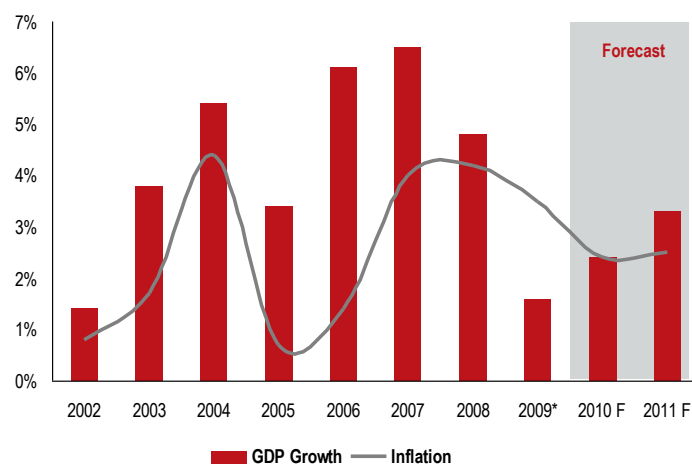
Every city has older and underutilised properties and they often occupy good, central locations and therefore have the potential to become valued developments. There are arguments that it is more profitable to develop on greenfield site than to invest the required capital to restore and/or reuse (R&R) the old structure (Bullen, 2007), and that there are advantages with demolishing the old building and replacing it with a new over undertaking R&R. On the other hand, a number of studies in the literature presents economic benefits of R&R. As noted by Bullen (2007), adaptation is gaining recognition as an effective strategy to improve the sustainability of existing buildings by lowering material, transport and energy consumption and pollution.

There are a variety of methods of evaluation of such properties considered in the literature. However no study creates a total picture of benefits and disadvantages of R&R or finds clear formula for R&R profitability. The objective of this study is reviewing the approaches to R&R assessment and examining viability of listed building R&R using the case study of the mixed use, retail and residential, project in Warsaw, Poland in order to provide a professional guideline to the investors. The study examines other hypothetical scenarios for the subject property and the effects of the recent credit crunch on the property. The method applied in the study is residual appraisal, that is a simplified form of cost-benefit analysis. The study makes the case for needed improvement in the field of R&R assessment.

Polish Economy Overview

Poland is the largest economy in Central Europe, with over 38 million inhabitants. It is a market larger than those of the Czech Republic, Slovakia and Hungary combined. Within the European Union it ranks as the sixth largest overall economy. Poland became a member of the European Union on the 1st of May 2004. Relatively low labour costs and proximity to Western Europe, attracts foreign investors. The economy has been expanding and has been supported by robust export growth since accession to the European Union. In 2008 the increase was reduced due to the global financial crisis, and was reported at 4.9% in 2008 and 1.7% in 2009. This marks out Poland as the only country in Europe to avoid recession in 2009. The prognosis of the GDP growth for 2010 oscillates around 2.7% and around 3.4% for 2011 (Consensus Economics Inc., 2010).

Since 2002 the increase in prices had been restrained, which was followed by very low inflation reported in 2003 and a few reductions in interest rates. In 2008 the consumer price inflation increased to 4.2% and in 2009 it was reported at the level of 3.5% (Consensus Economics Inc., 2010). According to the Consensus Economics forecasts consumer prices will reach the level of 2.4% and 2.6% in 2010 and 2011, respectively. The GDP and Inflation reported from 2002 are shown in Figure 1.



* Consensus latest estimate concerning GDP level in 2009

Figure 1 GDP and inflation (Jones Lang LaSalle 2009 / Consensus Economics Inc. 2010)

From February 2006 and throughout the year, the base interest rate stabilised at the level of 4.0%. The following months brought further increases of the interest rate, resulting in a peak at 6% in the middle of 2008. In the second half of the year the market reacted to the global economic and financial crisis and the rate significantly decreased. In December 2008, the base reference interest rate was set at the level of 5%. This has decreased afterwards and was set at 3.50% in June 2009. The unemployment rate is still an issue. It has been gradually decreasing since 2004 from the level of approximately 20% to approximately 9.5% at the end of December 2008. This was a result of improving economy and business activities accelerating. However due to the global financial crisis, a general slowdown of the Polish economy and the return of workers from overseas, the unemployment rate rose to 12.7% in January 2010 (Consensus Economics 2010). After long negotiations with the European Union, Poland has set out plans for adopting the euro in 2015.

Warsaw Retail Market Overview

The Warsaw retail market has been on the fast track from mid 1990s. A number of new shopping centres and new retail formats have emerged during this period. The most recent large format scheme is the Złote Tarasy (developed in the centre of Warsaw in February 2007), and the most recently developed scheme is Galeria Rembelska, constructed in 2009 as a part of a residential building. Factors that contributed to decrease of the retail supply provision from 2007 include the economic slowdown, together with changes in administrative procedures including the introduction of restrictions for obtaining building permits for large format schemes, increasing land costs, lack of zoning plans combined with the developers' change of focus on expansion into regional urban centres.

RATIONALE

There is still scope for further development of retail schemes in Warsaw. In order to attract part of the city of Warsaw's spending power, there is a need to develop new retail concepts that differ from the existing ones. There is also a growing interest in utilisation of Brownfield sites and restoring and/or reusing (R&R) old buildings because resources of developable land are limited and Greenfield sites are generally available in the better locations within the city limits. However, the process and constraints of R&R is more complex than to produce a new building and at times may be challenging in order to preserve parts of the existing building's features. As noted in the research conducted by Kurul (2007) this is one of the crucial barriers to enter this sector of property market.

Only a small number of studies about the economic status of individual R&R projects exist in literature, although R&R has significant support as a positive strategy to make the built environment more sustainable, and is perceived as a sound investment (Bullen, 2007). This perception stands in opposition to opinions shared amongst developers in Poland that it is better to demolish old structures and develop a building from the scratch, or build on greenfield sites than to restore, re-use or re-develop old buildings. The planning regulations and implications in Poland such as the lengthy processes and restitution claims that started to appear in recent years that are relatively restrictive in terms of listed buildings have so far been possible reasons for discouraging development either on Brownfield sites or sites where listed buildings are situated.

To date, no official study has been carried out in Poland to assess the economic feasibility of R&R projects including listed building refurbishments or the investment performance of historic buildings. Moreover, there are no simple tools widely known for such assessment projects. Therefore, there is a requirement for compiling data and investigating issues relating to refurbishment projects, including exploring the methodologies of assessment of such projects, which could test the project viability and facilitate in the decision making process.

After conducting market analysis and a feasibility study of a selected property, a suitable concept for the building shall be identified and the results of the study will be beneficial to the owners of the property to assist them in their decision making process.

METHODOLOGY

The study involved parallel research activities which comprise predominantly of literature review and analysis of a case study appraisal of a listed building.

The first stage of the research involved a review of academic literature and publications. The literature researched covered areas such as the economics of adaptive reuse, rehabilitation and refurbishment of buildings. The study also looked at the issues connected with the preservation of historic buildings, with the main focus on the methodologies of adaptable or refurbished properties. The second stage of the research comprises a case study which involved a Residual Appraisal of a Listed Building in Poland.

The case study Project Hala, is a historic building of unique architecture, and is traditionally renowned as an indoor retail market with a wide range of fresh food produce. The building was completed in 1908 and refurbished after World War II. It is prestigiously located in the centre of Warsaw in Poland, in the vicinity of the district city centre. The location is characterized by the presence of pre-war tenement houses with small unit shops and restaurants located on the ground floors of the residential buildings, which are interspersed with narrow streets. Though it is a city centre a number of commercial properties, such as offices and also some modern residential buildings have appeared in the neighbourhood recently. The location differs from the remaining part of the district and the sense of the place has remained. The style of the building and its location may be associated with Covent Garden Market in London, currently a well known speciality shopping centre and historically a fruit and garden market.

The subject building consists of approximately 14 metres high main hall of steel construction and two 3-level outbuildings which previously were used for administration purposes. The main hall is of steel construction that is typical for the large scale developments in Europe from the end of the nineteenth and beginning of the early twentieth century. The property possesses a significant architectural and historical value and is listed in the Mazowieckie Voivodship's Monuments Register. At the time of writing this paper the building was in a very bad state of repair as confirmed in the technical surveys relating the site and the building. This made the building unsuitable for further use without a general overhaul and it has remained vacant from 2005.

The current owner of Hala Project is a privately owned company. Due to the special requirements for listed buildings set by the local conservation office work on the building revitalisation and site re-development has been delayed for a relatively long period of time. Demolition is not possible as the external elevations and main construction elements are to remain unchanged. The most recent project proposal includes the renovation of the old market hall, incorporating 10,000 sq m of new retail facilities. In addition, it envisages construction of approximately 200m high standard residential units in three new residential buildings with underground parking spaces adjacent to the retail scheme (Figure 2). The residential buildings are to be modern in character to offer architectural division to neighbouring buildings and the new apartments are to be offered for sale in an unfinished condition, except for common parts which will be finished to a high standard.



Figure 2 Hala Project visualisation prepared by APA Wojciechowski architects (Warsaw Gazette 2010)

The property owners, by the date of this paper were still considering whether to undertake this investment opportunity or dispose the site and seemingly there was still no final decision and concept for the property. There were rumours on the market that residential space might be replaced with offices. Moreover, the owner's hesitation has deepened as the result of the impact of credit crunch that started in 2007 in the U.S.

METHODS OF ADAPTIVE REUSE ASSESSMENT

According to Kurul (2007) property R&R is more complex than undertaking new construction therefore it is crucial to identify the stages of the process. Kuril (2007) identified that appraisal should be the first stage in the project, prior to any planning application. The importance of appraisal as part of the investment process is supported in a number of studies. The approaches to the appraisal of R&R have developed over decades. A selection of the approaches are briefly outlined in .

In addition authors such as Mason (2005) considered in broader terms the methodologies identified that specifically can be used in historical properties assessment which are listed below;

- Basic cost studies –financial calculations, such as cost-benefit analysis, consisting of calculation of return on investment or comparison of estimated market costs of alternative actions.
- Economic impact studies – a search into how the process of historic preservation contributes to the regional economies (measured in terms of job creation, income creation, tax revenues and property values)
- Regression analysis –statistically examining the relation between multiple variables and the market price of the property.
- Contingent Valuations and Choice Modelling (Stated-preference studies) These methods create hypothetical situation and are based on surveyed consumer preferences rather than actual market data.
- Case studies – qualitative assessments involving descriptive statistics on a particular case.

The methods proposed do not provide a full picture of the income side of the investment, nor are they straightforward to apply when decision is to be taken. However these approaches can serve well in assessing non-financial (e.g. social) benefits or costs of R&R (Mason, 2005). Other sources (summarised by Manewa et al., 2009) suggest simple payback, cash flow, internal rate of return, net present value as tools which can be used for economic evaluation or reuse concepts. After consideration, the author of this paper selected cost-benefit analysis as this offers a sound option for evaluating R&R and can assist the investor's decision. The quantitative cost-benefit analysis approach remains prominent in the literature as it relies primarily on maths and statistics (Mason, 2005). Thus the Residual Appraisal, which may be compared to simplified cost benefit approach, was adopted in order to determine whether the R&R project is viable considering a limited set of costs and benefits which may be expressed in money terms.

The case study was compared to the data gathered in the first stage of the research which is used to test project viability. This method together with the Residual Valuation method is applied by Property Investors and those who value property, when a project is not typical and when a simple valuation based on comparables or Discounted Cash Flow (DCF), is not possible. This method was found to be suitable for the evaluation of adaptive reuse of buildings. The residual method is in fact a composition of income and cost methods which consists of estimating the development value from which development costs are deducted. The costs include hard and soft costs of construction, marketing and leasing of premises, the cost of investment financing, and land acquisition costs or developers profit depending on whether the calculation has a form of appraisal or valuation. future indexation.

Author and Focus	Key areas / findings
<p>Needleman (1965.)</p> <p>Developed formula to evaluate redevelopment and rehabilitation</p>	<p>Rehabilitate if</p> $C > R + M \left(\frac{1 - (1 + i)^{-n}}{i} \right) + \frac{C}{(1 + i)^n}$ <p>Where:</p> <p>C – cost of constructing a new building R – cost of rehabilitation of the old building M – annual savings in maintenance cost with a new structure rather than a rehabilitated one n – the life of the present structure following rehabilitation i – the interest rate of the rate of discount.</p> <p>The formula is based on comparative costs and does not have regard for revenues and benefits that a property brings. The advantage of rehabilitation increases the higher the interest rate.</p> <p>Later versions also consider capital value of the building. Does not include income generated from new project</p>
<p>Pugh (2007a, 2007b)</p> <p>Refurbishment in shopping centres.</p> <p>Reviews new construction versus rehabilitation cost</p>	<p>He provides principles of economic appraisal in such properties and reviews considerations which are relevant to investment.</p> <p>Net Present Value (NPV) calculation (Pugh, 2007b) highlights the importance of obsolescence, which in case of shopping centres progresses quickly. This is considered not only in terms of physical deterioration, but encompasses economic, social and management change as consumer tastes change in favour of different types of shopping.</p> <p>Undertake the process if:</p> <p style="padding-left: 40px;">NPV of the refurbished scheme > NPV of the existing scheme.</p> <p style="padding-left: 40px;">NPV of refurbished scheme is: $Rr - [Cr + Mr + Dr]$</p> <p style="padding-left: 40px;">NPV of the existing scheme is: $Re - [Ce + Me + De]$</p> <p>Where: R – rent receivable C – capital costs (i.e. the costs of construction, appropriately depreciated or in the other words the opportunity cost of the depreciated capital sum represented in the buildings) M – maintenance costs (are associated with the age and condition of the building) D – the rate of obsolescence/depreciation r – the relevant rates after refurbishment e – the relevant rates of the existing buildings.</p> <p>Does not allow consideration of income if site has not been operating prior to evaluation</p>
<p>Manewa et al. (2009)</p> <p>Whole Life Analysis (WLA)</p>	<p>The technique takes into account the present value of future costs and benefits of a property and uses discounted methods to evaluate them in monetary terms</p> <p>$WLA = f \{ (\text{Expected future income}) - (\text{Initial capital cost} + \text{Cost of functional adaptation} + \text{Maintenance and operation cost} \pm \text{Cost of demolitions}) + \text{Risk} + \text{Performance} \}$</p> <p>If the answer is positive the building adds more value for its end users.</p> <p>However it is difficult to measure Performance in monetary terms and there is lack of framework for collecting relevant data such as reliable cost data. Therefore the approach can be taken into account at the early stage of design and in setting initial budgets</p>

Figure 3: Literature on formal economic appraisal (source: author)

APPRAISAL

This paper presents the comparison of the cost of realisation of the Hala Project as planned by the investor, with a hypothetical new construction project, including the demolition of the existing structure. The ‘cost per sq m’ comparison was made based on rates published by professional companies dealing with construction costs (KNR, 2009), as well as information from demolition companies. The study also evaluates a hypothetical scenario which assumes the market has not been influenced by the credit crunch, and adopts all the variables for the calculation based on the market

data as of the second quarter of 2008. This is due to the effects of the downturn in the economy starting to appear in the third quarter of 2008 in Poland. The method applied to R&R analysis is residual appraisal. It consists of estimating the Gross Development Value (GDV) and costs that need to be incurred to realise the project. The result of the calculation is Return on Investment, providing indication of the possible Developer's profit that may be obtained through the sale of the property. The assessment has been prepared for 3 scenarios described in Figure 4.

The above assessment requires a thorough analysis of the supply and pricing of retail space, as well as the condition of the investment market, in order to establish the relevant capitalisation rate. The research reviewed the current rates for retail space in Warsaw. Based on the above, it was possible to prepare an estimate of achievable rental band for particular retail branches (different rental levels are achieved for clothing, shoes, food, restaurants), with regards to the retail category and the size band of the required floor space (rent-grid). The results were subject to simple statistical quantifications, such as calculating the mean between rental levels. The main aspect to be approached is estimating whether the project is viable at a given construction budget. Therefore, the 'Rate of Return' for a particular investment could be calculated.

Assumptions for Scenario 1 - Estimated Rental Value and Development Costs

It is envisaged that the project may be of interest to some upmarket brands. Fashion retailers are planned to occupy approximately 45% of the total space. A large area within the centre is intended to be leased to the operators of cafes and restaurants, with the remaining space will be designated for a delicatessen.

Based on current market conditions, analysis of quoted rents and recently negotiated lease transactions in Warsaw's existing shopping centres, the average minimum base rent within the subject scheme (not including the delicatessen) is estimated at EUR 28 per sq m per month approximately. This rent mentioned above does not include service charge, nor any potential turnover premiums or

It was assumed that leases would provide for the full recovery of building operating expenses, property taxes and insurance, however due to current market situation an allowance in respect of non-recoverable expenses and vacancy was provided at the level of 1%. As a result, the estimated Net Operating Income for retail space within the subject property is at the level of EUR 2.99 million and the development value of the retail element calculated on the basis of capitalisation rate of 7.5% amounts to EUR 39.96 million. The income from residential development with parking spaces was estimated at EUR 48.35 million assuming average apartment price at the level of approximately EUR 4,300 per sq m (equivalent for PLN 17,000), reflecting approximately 10% decrease in apartment prices compared to 2007 when the market was booming (REAS, 2010). The sale price of a parking space, based on comparables within the subject location, is estimated at approximately EUR 14,000 (equivalent for 55,000 PLN). The above are net prices, not including VAT at 22%. The total estimated development value is therefore EUR 88.32 million.

For the purpose of the case study, capitalisation rate at the level of 7.50% was adopted. It reflects high potential of the property to become a prime retail destination after construction. Therefore the rate adopted incorporates 50 bps⁴ premium, comparing to prime retail products in Poland.

The assumed cost of restoration and construction was based on the detailed calculation provided by the quantity surveyor. Estimated project hard costs (not including infrastructure fees and construction contingency) were at the level of EUR 1,954 per sq m for restoration and retail scheme redevelopment, and at the level of EUR 2,665 per sq m of residential space. Infrastructure and construction contingency were estimated at the level of 1.25% and 5% of hard costs, respectively. In the result total project hard cost was calculated to be EUR 51.94 million, with other project costs (including compensations for residents of neighbouring buildings and tenant incentives) EUR 3.04 million; technical services (including project management and architectural design at 5.5% and planning at 2.2% of construction costs) EUR 4.02 million; Marketing (at a level of 2% of 1 months rent) and letting (at the level of 8% of 1 months rent) EUR 1.32 million. Taking into account the above assumptions the total construction cost of the project is EUR 60.33 million.

⁴ bps or Basis point is a unit of percentage measure equal to 0.01%. Basis points are commonly used when discussing changes to interest rates, equity indices, and fixed-income securities (Farlex, 2009). 50 basis points would indicate an increase of 0.5%

The calculation also assumes the following:- Financing cost – EUR 2.56 million (3 month Euribor +3.5% bank premium); Land acquisition cost and fees – EUR 13.19 million; As a result the total estimated project costs excluding developer’s profit amount to EUR 76.07 million. Taking into account the above, the residual approach indicated the developer’s fee according to the high quality property type, at the level of EUR 12.24 million, equivalent to 16% of total development cost. Figure 6 shows the residual appraisal for Scenario 1.

Scenario	Detail
Scenario 1	Restoration/reuse of currently existing building, according to current regulations/restrictions for listed buildings. This option assumes developing the site according to the local Heritage Conservator Office restrictions, i.e. main construction elements and the facade of the building are to remain unchanged. 10,000 sq m retail scheme and 11,000 sq m of residential space in the three new buildings to be constructed.
Scenario 2	Development of new structure, assuming demolition is permitted. This hypothetical scenario is based on the option of demolishing the existing old buildings and constructing a new structure. The new building has the same use and parameters as the real reuse project. This option assumes demolition costs are incurred for buildings removal.
Scenario 3	Is based on the assumption that office space is constructed instead of residential space, so that the project will comprise 10.000 sq m of retail and 11.000 sq m of office area.
Scenario 4	Is based on the assumption that investment with the same parameters and specifications as in Scenario 1 is realised in the period of economic boom, when no effects of the credit crunch were visible (Q2 2008)

Figure 4: Scenario details

Assumptions for Scenario 2

Based on the available publications (KNR, 2010) and information from developers it was found up that the cost of realising new high quality shopping centre is in the area of EUR 1,500 – 1,600 per sq m. This is approximately EUR 400 per sq m lower than in the case of the subject shopping centre R&R. Additional cost of demolition of EUR 352,000 (according to an offer from demolition company) and increase in infrastructure cost up to 5% of hard costs were assumed. Other parameters remain the same as outlined in Scenario 1.

Assumptions for Scenario 3

Assumptions for the retail element are the same as in Scenario 1. The following assumptions have been adopted for office element; Market rent based on the analysis of prime office rents in the city centre – EUR 21 per sq m per month; Capitalisation rate of 7.75%. which is 50 bps above the prime yields reported for offices; Cost of construction based on published cost data for office buildings up to 7 upper floors, incorporating underground parking is EUR 2,000 per sq m of usable area;

Assumptions for Scenario 4

Rental levels, capitalisation rate, construction costs, finance cost have been found to be affected by the credit crunch. Differences in assumptions adopted include: Market rent for retail space – EUR 30 per sq m per month, Selling price of flats – approximately EUR 4,600 (equivalent for PLN 18,000), Bank interest charge is 6.65% and compounds of 3-Month Euribor at the level of 4.65% and bank margin of 2%. The provision has been adopted according to recent data for the construction market that construction hard and soft costs were approximately 10% higher in Q2 2008.

A summary of the findings from each of these scenarios is given in Figure 5.

Research limitations

The study presents assessment methodologies which can be used at the initial stage of the development process, as noted by Kurul (2007). However, it was found that most of the appraisal methods used do not account for social and environmental costs, or benefits (pollution, traffic congestion, travel costs, beneficial effects on third party). These methods mainly focus on the costs and benefits of the individual Investor. It would be possible, with relevant amendments, to include those costs, however these are often intangible and difficult to present in money terms. In fact, no study was found to provide a proper tool for measurement of those.

A further limitation of the research is that of the appraisals used, as they are only valid for that given point in time. They may appear bias towards static conditions of the methodology, whereas the market is fluctuating (e.g. significant change in investment yields during 6 months in Poland – Q4 2008 and Q1 2009). Even though the investment process may take longer the reality may provide a different rate of return than expected, or may even turn out not feasible in a quickly changing market conditions.

Finally, a major limitation on the research is the fact that there are no published data on costs that need to be born on R&R of Listed buildings. Another constraint is the lack of willingness of developers to share financial data. The study is based on the calculation of costs prepared by the Quantity Surveyors for this particular building. Each Listed building may require investment of a different extent as obsolesces usually have different degrees, and return on investment depends on capital input. Therefore, the results of the study may not be generalised, or related to the market of listed buildings.

	Scenario 1 retail+resi	Scenario 2 new construction	Scenario 3 retail+offices	Scenario 4 no crisis
GDV	88 316 356	88 316 356	77 141 471	106 847 506
Land cost	13 188 871	13 188 871	13 188 871	13 666 584
Hard costs	51 940 898	50 329 855	44 259 703	57 134 988
Soft costs	4 026 036	4 026 036	4 026 036	4 428 640
Other costs	3 042 702	3 042 702	3 042 702	3 042 702
Marketing	1 320 395	1 320 395	615 600	1 396 150
Financing	2 555 648	2 487 402	2 200 408	4 535 105
Total costs	76 074 550	74 395 261	67 333 320	84 204 169
ROI	16%	19%	15%	27%

Figure 5: Table of results from the four scenarios

DISCUSSION

From the data gathered relating to the appraisal methods used the results show that R&R can be assessed using quantitative and/or qualitative methods. It is recommended that an appraisal is to be undertaken at the early stage of the decision making process in order to examine a project's viability. The methods of R&R assessment evolved from 1965, however, it was found that some theories are difficult to apply in practice, and do not take into account all the variables connected with this non typical and complex property market sector. It should be noted that some benefits and the negative effects of the process are not measurable in financial terms and therefore any economic evaluation does not fully reflect the value of R&R of a listed property. The analysis carried out using the Residual Approach revealed that investment into the listed building project, in current market conditions, is viable, though less profitable compared to the hypothetical new build project.

The rate of return on investment, calculated on costs (developer's profit) in the case study is estimated at 16% (Scenario 1), which is relatively high compared to the return on safe securities such as 10-year Polish Government Bonds (yield at the level of 6.2% in 2009). The realisation of a new development, assuming the demolition of the existing structure (Scenario 2), could provide additional gain to the developer of approximately EUR 1.68 million. This reflects an increase in the developer's profit of 3% compared to the investment consisting of R&R of existing buildings with the construction of 200 new residential units

Furthermore, due to the effect of the credit crunch the return on this particular investment (Scenario 1) is 11%, which is lower than the years of economic boom (Scenario 4). Though the effect of the credit crunch has decreased property prices, investors can still obtain relatively good profits in the current market conditions. This is influenced by the decrease of construction costs of approximately 10% year-on-year, compared to the costs reported in 2008 (Interia, 2010), as well as the lower costs of financing due to the decrease in interest rates (even though financing is more difficult to obtain during this period).

RESIDUAL APPRISAL - Project Hala, Scenario 1

1.0 Estimated annual income - Retail element						
	Rentable area (sq m)	Rent €/sq m/mth	Income € pa	Vacancy & Non-rec. Costs	NOI € pa	Total NOI € pa
Retail & services	8,000	28	2,688,000	1%	2,661,120	
Supermarket	2,000	14	336,000	0%	336,000	
Total retail space	10,000					2,997,120
Car parking for clients (no. of spaces)	100	-	-	-	-	-
2.0 Estimated Gross Development Value - Retail element Capitalisation @ 7.50% € 39,961,600						
2.1 Estimated Gross Development Value - Residential element						
	Usable area (sq m)	Price €/sq m	Income €	Non-rec. Costs & Incentives		Total Income €
Residential area	11,000	4,370	48,071,979	5%		€ 45,668,380
Car parking (no. of spaces)	200	14,139	2,827,763	5%		€ 2,686,375
						€ 48,354,756
2.2 Total Estimated Gross Development Value € 88,316,356						
3.0 Land acquisition cost						
	Area (sq m)	€/sq m				
	9364	1,290		12,082,262		
Site acquisition fees	2.7%			326,221		
Land finance @ over (years)	4.15% 1.5				12,408,483	
					780,387	
						13,188,871
4.0 Estimated project hard costs						
	Area (sq m)	€/sq m				
Restoration works - retail	10,000	1,954		19,543,616		
Construction - residential	11,000	2,665		29,315,424		
Infrastructure @	1.25% of construction costs			608,482		
Construction contingency @	5.00% of construction costs			2,473,376		
						51,940,898
5.0 Other costs						
Compensation for residents				2,742,702		
Tenant incentives				300,000		
						3,042,702
6.0 Technical service fees						
Construction management @	5.54% of total project hard costs			2,877,457		
Design and planning @	2.21% of total project hard costs			1,148,579		
						4,026,036
7.0 Marketing & letting						
Costs @	2.00% of 1st year rent and total revenue			1,078,475		
Letting agents (retail space)	8.00% of 1st year rent			241,920		
						1,320,395
8.0 Carried interest charges						
Construction financing @ over (years)	4.15% (3.5% +3M EURIBOR) 2.0					60,330,031
applied to (%) of costs	50.00%					2,555,648
9.0 Estimated total development cost € 76,074,550						
10.0 Development fee € 12,241,806						
Capital Return on Value						14%
Capital Return on Costs						16%

Notes:

EUR/PLN rate according to National Bank of Poland as of 25 March 2010 - 1 EUR = 3.89

Figure 6: Example of Residual Value calculation for Scenario 1

Sensitivity Analysis

The approach adopted enables an easy check of the project efficiency. As assumed in Scenario 1 the project is to comprise retail and residential use. This use has proved to be the most effective – is the best use (realistic) scenario. Incorporating residential use (apartments and parking spaces for sale) has a significant influence on the project viability as it enables maximisation of density and plot ratio. If

the decision of the investor was to provide only retail space, then the project appears to be not viable (developer profit is negative).

Comparing the 'best use scenario' to the scenario incorporating offices instead of residential space (Scenario 3) there is a 13% difference in Development Value against offices, which reflects 1% loss on return on the entire investment cost. The development including residential space (Scenario 1, 2 and 4) is more effective due to unfavourable conditions for the office sector in the current stage of the market. Based on the market data analysis, the hypothetical Scenario 4, which assumes pre-crisis market conditions (this in fact is the most effective scenario), demonstrates that the effects of the market crisis has had an influence on the profitability levels of the property market. These effects could discourage investors from undertaking the investment activity.

CONCLUSION

A range of aspects connected with the process of R&R investment decisions have been considered in this study. Evaluation methods of R&R together with barriers and obstacles as well as analysis of the individual project viability provide a useful insight of some of the issues faced when embarking on such projects. The decision to undertake investment and reuse the building can be approached in analytical and technical methods of appraisal. The adaptation of the Residual Approach that was applied in the case study is recommended as a straightforward check of project viability.

The case study revealed R&R is economically grounded in the current state of the economy and is more costly and less profitable than new construction. However, R&R of a listed building provides a number of non-monetary advantages, connected with aspects such as prestige and social benefits. In many cases it enables a secure prime location in the city, which is the key to success of any commercial scheme. The Hala Project in Warsaw should not be left derelict and exposed to further deterioration due to its prestigious location and historical value. The concept presented in this study is recommended for the subject scheme. It was discovered that in the case of subject R&R project there is high potential to receive a return that significantly exceeds the level of yield reported for safe securities.

It is expected that adaptive reuse will play an important role in meeting demand for facilities and the regeneration of the cities, although some scepticism remains about the viability of adaptive reuse due to its focus on economic criteria. Furthermore, this emphasizes the need for further research into that topic in order to improve the tools for a more suitable assessment of the process including other financial aspects like sustainability criteria. This could facilitate investors' decisions, which is fundamental in the early stage of the process when considering the project's feasibility and making a decision to invest.

Further work should concentrate on building up a database on refurbishment, renovation and reuse costs in a similar way that exists for construction cost of new buildings. Classification criteria for redevelopment, reuse or ultimately demolition should be generated to establish if investment is feasible. Estimating such costs is complicated and difficult especially with regard to historic buildings, nevertheless this information could be analysed and published to provide valuers, property developers or other property related professions with information to facilitate their work. In addition, as valuation of listed properties is difficult in general (in fact, it is difficult to assess whether listing enhances or detracts from the market value of a building) a separate data bank with values and yields for listed buildings would be expedient in making the market more transparent. Additionally any property data bank with transactional data publicly available would be essential in Poland (an existing example is the Investment Property Databank in the UK).

More work would be necessary in the field of administration procedures in Poland, including government subsidies and tax incentives. Current lack of legislative backup for R&R discourages entrepreneurs from undertaking such projects. Governmental bodies should provide more initiatives and incentives for instance, tax relief with regard to listed buildings. More incentives such as grants should be available to investors and developers, to make investment more profitable and encourage private companies to undertake activities that contribute to city revitalisation.

The current situation of the property market in Poland should not discourage investors and property developers, as there is still plenty of scope for potentially lucrative investment opportunities.

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