# The transition of the Polish real estate market within a Central and Eastern European context

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**Abstract**[1]

The real estate market in Poland is a relatively immature market, but one that has been experiencing substantial transformation. The development of the market has been encouraged by a number of factors, including changes arising as a result of new legislation and the migration of capital between capital markets. The progress of the real estate sector towards a western style competitive market has taken place within the gradual transformation of the Polish economy into a free market economy. As investment grade property is in relatively short supply in Poland, investors consider opportunities within the wider CEE block. An analysis of the risk-return characteristics of the three largest CEE real estate markets namely, Poland, Hungary and Czech Republic, shows that the returns in these markets have been negatively correlated with the UK. As these economies and markets evolve, and being part of the wider EU trading block, their economic performance will slowly converge and become more synchronized with their western counterparts. However, the catch-up of the CEE markets to western European performance cycles will be protracted and consequently there are likely to be significant ongoing portfolio risk reduction opportunities.

Key Words: Polish real estate, CEE, emerging markets, portfolio risk, diversification.

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## 1. Introduction

The *commercial* real estate market in Poland is a relatively immature market in the initial stages of development. The real estate sector is part of the wider economy which itself is in the process of transition. The transition of the old communist order to a fully functioning market economy involves the introduction and adoption of new institutions and new practices. Structural reform has included the privatisation of financial and industrial sectors, the liberalisation of goods and capital markets and improved institutional frameworks. In particular, pre-1989, the absence of financial markets and the irrelevance of financial variables in the workings of the real economy, especially the enterprise sector, has meant that the development of the real estate markets in Poland has taken place within the wider evolution of the real and financial economy.

Over the nine years to 2000, economic growth rose steadily from 2.6 % in 1992 hitting a peak of 7.0 % in 1995 with a gradual decline to 4.0 % in 2000. The economy followed the global recessionary pattern in 2001, with much reduced growth rates in 2001 and 2002. Economic performance in 2003 has much improved compared with the previous two years where there was an economic slowdown. Growth in GDP for 2003 is estimated at 3.8 %, driven by export growth, following growth of 1.0 percent in 2001 and 1.4 % in 2002. On a per capita basis, OECD figures show that over the period 1995-2003 real GDP has averaged 4.2 % annually, compared with a EU annual average of 1.8 %. On the inflation front, macroeconomic stabilisation policies have resulted in the successful reduction and control of inflation. The rate of inflation has stabilised at around 1%, having fallen from the extremely high rates present over most of the 1990's (Appendix, Table 1).

Over the last three years Poland has attracted some €19 Billion of investment capital. The largest investors have been France (20% of the total), Netherlands (14%), and the USA (13%) and Germany (13%). The manufacturing sector, transportation equipment, chemical and metal products, has represented a growing proportion of output.

As regards future prospects, it becomes important to consider Poland's economic outlook as a new member of the EU, where Poland is the sixth largest economy. Membership of the EU will enable access to EU 'structural funds' which will facilitate considerable financial aid. Due to a combination of economic restructuring, technology spillovers and foreign direct investment (FDI) resultant productivity growth has been high and is anticipated to maintained. The impact of these factors will have a positive knock-on effect on domestic demand, giving it a boost over the next few years. However, unemployment remains high, currently at around 19%. The increased unemployment levels reflect the restructuring that has taken place in the economy and the attendant fall in industrial output. In order to converge to EU average, per capita, income levels not only is labour productivity important but also labour utilisation i.e. employment levels[2]. Clearly, the high levels of unemployment will need to be addressed. The overall outlook, provided by EU estimates (1), is that GDP growth is anticipated to grow by 4.6 % in 2004 and 4.8 % in 2005.

As for real estate, office yields have been falling over the last few years, currently standing at around 9% (2004). This has been driven by a combination of falling bond yields, shortage of suitable stock, a perception of lower risk and improved investor confidence. The volume of office transactions in 2003 was €250 million (CWHB, Market Watch 2004, Poland – Investment & Finance). Retail yields are 10% in Warsaw (CWHB, 2004)). The combination of a shortage of institutional grade retail product and strong demand in Warsaw has directed interest towards other provincial cities. There has been less institutional interest for industrial property.

Leases are mainly shorter than in the UK and marginally shorter than in western Europe, yields will, therefore, reflect the potential increased risk of letting voids. For overseas occupiers currency risks are mitigated by the fact that rents are denominated in US dollars. Overall, rental levels have been on a downward trend that is likely reverse as the market becomes more mature. However, it is unlikely that positive rental growth will resume in the near term.

Investment markets have become global and integrated, including real estate markets (Ling and

[2] GDP/POP=(GDP/EMP)*(EMP/POP)

Naranjo, 2002). However, CEE countries are still in a transition phase and therefore offer opportunities. Evidence that CEE markets are not fully synchronised with western European markets can be gleaned by looking at the correlation structures for rental growth, capital growth and total rates of return. As investors increasingly enter the CEE markets, these markets will become more liquid and mature. However, at present information costs and trading costs create market entry frictions.

The paper looks at the evolution of the Polish real estate market. Section 2 outlines the factors that have facilitated the development of the market. Section 3 provides a brief overview of the Polish real estate market. Section 4 briefly looks at the wider central and eastern European property markets, concentrating on the three largest markets, Poland, the Czech Republic and Hungary. Section 5 reports the results of a risk and return analysis for these markets and the UK. Section 6 concludes.

## 2. Factors encouraging the development of the Polish real estate market

A number of factors have combined and contributed towards the development of the Polish real estate market. These are discussed next.

### *i) Economic transition*

The first transition years (1990-1991) resulted in GDP falling drastically together with an increase the rate of inflation and the rate of unemployment (Appendix, Table A1). Symptoms of recovery in the economy began to appear in 1992. In 1994 GDP growth exceeded 5%, peaking at around 7% in 1995-1997. The expansion of GDP was accompanied by a falling inflation rate from over 70% in 1991 (*580%* in 1990) to 14.9% in 1997. However, these encouraging figures were at the cost of escalating unemployment, rising from 6.5% in 1990 to 16% in 1994 falling off 10.3% in 1997.

After 1998 the economy strongly decelerated – GDP growth fell from 6.8% in 1997 to 1% in 2001. Over this period inflation fell from 14.9% to 5.3%. As at the end of 2003 the rate of inflation stood at 1.7%.

The economy has shown strong signs of recovery in 2003, GDP growing by 3.8 %, largely boosted by net exports and a depreciating zloty.  Private consumption has been held back by weak income growth. Going forward, the latest EU Economic Forecast (Spring 2004) is for continuing strong growth, with GDP expected to grow by 4.6% in 2004 and 4.8% in 2005. Consumer demand is expected to increase moderately and a rebound in investment, due to increased corporate profits, is also anticipated. However, the improving GDP and inflation situation have not significantly reduced unemployment, which still remains at around 19%. The levels of unemployment are anticipated to remain high due to the ongoing restructuring process in industry and agriculture. Poland's main trading partners are Germany, the Czech Republic and Hungary.

***ii) Amendments to legislation***

Private property rights have been extended. The introduction of the principle that all types of ownership are equal before the law and restrictions on governmental bodies' interference in private property relations has been restricted. The impact of the amendments to legislation became particularly obvious in the first transition years by allowing local government and municipal ownership to reinstate privatisation of property rights (9).

***iii) Changes in the financial environment***

Reforms in the banking sector abolished the monopoly of a single state bank and facilitated the emergence of competing commercial banks and mortgage banks. These measures have facilitated the role of external sources for financing funding and investment.

***iv) Migration of capital between different markets***

Investors seek projects that offer appropriate rates of return at acceptable levels of risk.  In the post-war period investments were traditionally targeted towards gold, US dollars and

Deutschemarks. The emerging fabric of a market economy redirected investors' attention to other instruments – in the years 1993-1994 shares provided the highest rates of return. Investment in shares attracted capital which inflated prices with an attendant fall in yields; funds started to pull out of the stock market and the price of shares plummeted. In mid-1990's the declining attractiveness of shares and other investment categories focused investors' attention towards the real estate markets. Funds withdrew from stock markets and sought alternative potentially profitable investment areas, particularly in real estate (8). Fundamentals underpinned the attractiveness of real estate in that growth in demand for space in the larger cities translated into positive rental growth. In turn, rising rental income attracted capital. The flow of capital into the real estate market occurred across all sectors, but particularly into the office and the residential markets.

***v) Changes in Poles' mentality***

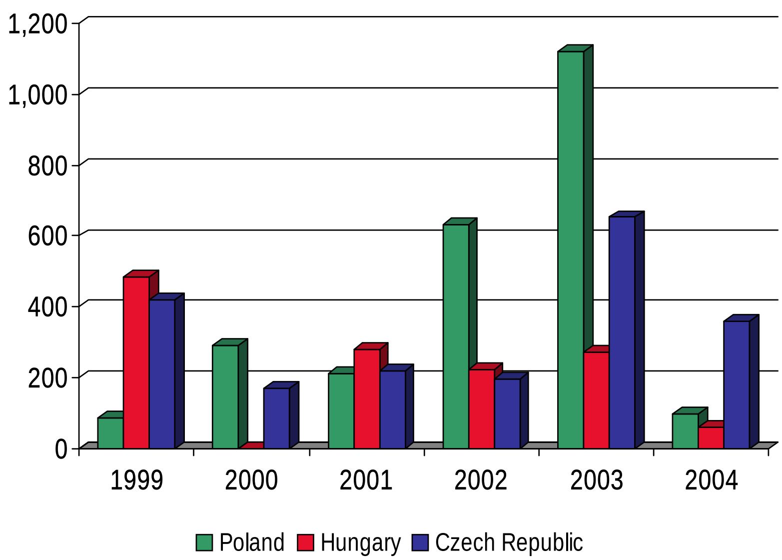
Poles have gradually started to perceive real estate as not only a physical asset, a place of residence or somewhere to run a business from, but also as an investment asset. The reluctance to invest in real estate stemmed from the disregard of property rights and from the abused institution of dispossession (7). The emerging fabric of a market economy began to draw attention towards investment categories other than the traditional ones, including real estate; the introduction of regulations secured 'respect' for property rights. The real estate market has now become an acceptable investment area.

***vi) Flow of foreign capital***

The total value of foreign investments made in Poland after 1989 is estimated to be in excess of US$62 billion (8). Although in the recent years the inflow has fallen-off a little, it non-the-less remains substantial being US$ 5.3 billion in 2001, US$ 3.2 billion in 2002 and rising to US$ 4.2 in 2003.

International capital started flowing into to the Polish real estate market as early as the first half of the 1990's. Institutional investors started to look outside their traditional real estate investment markets and considered central and eastern European markets as offering potential for their real estate investment portfolios. The first such transaction in the Polish market was concluded in 1998 by the insurance company Commercial Union. Much of the capital was directed towards the office sector, particularly in Warsaw, where investment demand considerably exceeded supply. Part of the attraction was that rental growth in offices was high, thereby producing good income returns. Another sector with appeal to international investors was industrial property, which attracted speculative capital. The Polish real estate market has also started to experience the first stages of institutional development. The inflow of international capital from institutional investors has continued to grow. The value of transactions, € millions, for the three largest CEE countries, Poland, the Czech Republic and Hungary, over the period 1999 up to the first quarter of 2004 is shown in Figure 1.

**Figure 1: Investment volumes CEE 1999 -2004:Q1**

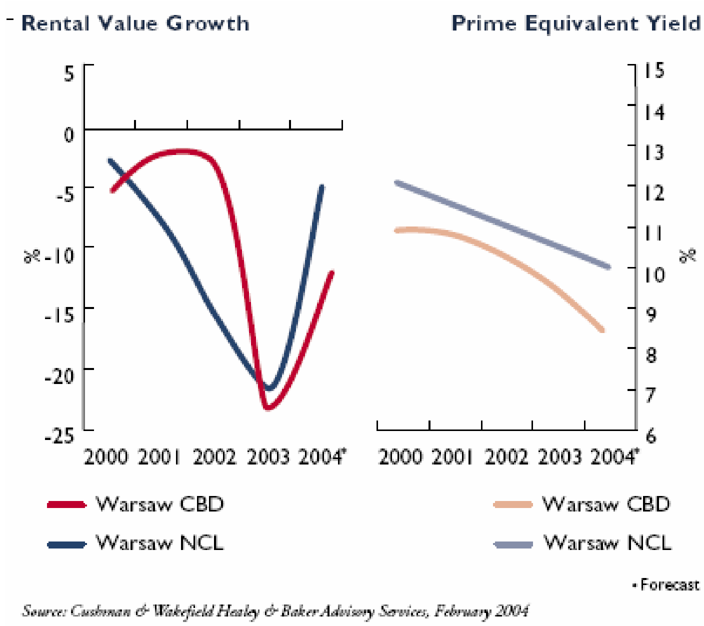



Source: Jones Lang LaSalle

In the case of Poland, the involvement of international capital became particularly evident in 2002 when the value of concluded transactions was three times greater than in 2001.

It seems that the dynamism of the real estate market, especially in the first transition years, was strongly affected by structural changes and by the immediate prospects/opportunities than by cyclical factors or a longer term outlook. It now seems that consideration of longer-term expectations exerts a stronger influence on pricing than the prevailing short-term conditions. For example, Figure 2 shows that despite negative rental growth, largely due to increased supply in the office sector, yields have continued to decline.

**Figure 2: Fundamental mismatch?**




The fall in yields reflects a number of factors, including the large reduction in Bond yields witnessed over the last three years, see Table 1.

**Table 1: Bond yields**

| Duration | 2001 % | 2002 % | 2003 % |
|---|---|---|---|
| 2 Year T-Bond Yield | 14.0 | 7.9 | 5.4 |
| 5 Year T-Bond Yield | 12.5 | 7.9 | 5.6 |
| 10 Year T-Bond Yield | 10.7 | 7.3 | 5.8 |

Source: Ministry of Finance, February 2004

The other components of yield are the risk premium and anticipated rental growth[3] (15). As the

[3] Brown, G.R. and G.A.Matysiak (2000) Real Estate Investment: A Capital Market Approach, Prentice Hall Financial Times.

office investment market has become more established, together with the growth in supporting institutional and commercial structures thereby creating a more liquid investment market (see vii) Market underpinnings), the risk premium has also fallen. Also, a limited supply of investment product has contributed to falling yields. As for longer-term rental growth prospects, this will be determined by the interaction of supply and demand for office space. If the underlying growth in office support services mirrors the anticipated broader economic growth, and is translated into effective demand, this will have a positive impact on rental growth and on yields; this may already have been factored into office yields. Ultimately, if yields are to converge to western European levels they will need to reflect long-term fundamentals, including sustainable rental growth prospects and attendant risk premia.

***vii) Market underpinnings***

Despite being relatively immature, the real estate market in Poland has strong institutional foundations (7). They comprise of the following elements:

- establishment of a legislative base underpinning the functioning of the real estate market –free trade in property, the rules for its privatisation, as well as amend rules for disposition and apportionment;
- a mortgage banking system has been created. Four mortgage banks operate in Poland; three of them have issued mortgage-backed securities;
- real estate valuation rules have been adjusted, modelled on western standards. Valuation standards have been developed on the basis of TEGOVA standards and on International Valuation Standards;
- higher learning institutions have launched courses and research into the real estate market and educate professionals to service the market;
- groups of professionals has been trained to service the real estate market – apart from the group of valuers certified by the state (around 4,000), there are also licensed real estate agents (4,500) and licensed real estate managers (approx. 13,000);
- many of the worlds' leading property consulting companies have offices in

Warsaw.

However, there are still market frictions. Legal obstructions to the expansion of the real estate market are: property relations unregulated by the re-privatisation law and the long lead-in periods needed to conclude and record transactions in the land and mortgage register. Not only does this put at risk the safety of trading, but it also limits opportunities of using mortgages as collateral to secure money due to creditors. One positive aspect is the legislature's on-going work on the re-privatisation act, as well as computerisation of the land and mortgage registers (7).

## 3. Property market background

### *Offices*

Office property is largely concentrated in Warsaw – two-thirds of all space developed from the beginning of the 1990's has been in Warsaw. Currently, Warsaw has approximately 1.9 million sq. m of modern office space. Other cities have a limited stock of modern and high quality space. The additional provincial stock has mainly resulted from the strong development activities that took place in the second half of the 1990s. Overall, the supply of new space has been declining – in 2000 the supply of new space was 300,000 sq. m, 219,000 sq. m in 2001 and 210,000 in 2002.

Almost half of the modern space in Warsaw is located in the Central Business Area. In the core centre rents range from 25 to 28 USD/sq. m a month, in the central area from 19 to 22 USD and outside the centre from 14 to 17 USD / sq. m a month. In addition to rental costs there are the cost of services, 5-6 USD/ sq. m a month, and adjusted for an 'add-on' factor varying from 0 to 15% (9).

Regionally, office space rents show large spatial variations. In 2002 the highest rates outside Warsaw were noted in Poznań – up to105 PLN /sq. m a month, that is around 20-22 USD for Class A space within 100 sq. m, 18-19 USD/ sq. m a month for Class B property and 9-10

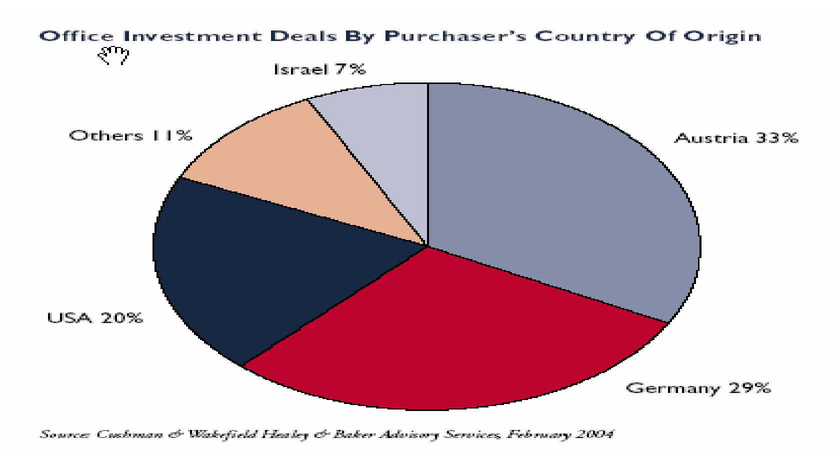
USD/ sq. m a month for Class C.

Leases are typically concluded for 3-5 years, previously being 5-10 years. The lease contracts have many clauses regarding renegotiation of the terms and primarily rent renewal. Both rents and the manner of concluding contracts are currently lessee-driven - incentives such as a 3-month rent-free period and space configured at the lessor's expense have been granted in current market conditions. Colliers International estimates that in 2002 financial incentives decreased effective rents by around 20% (9).

Over most of the second half of the 1990s it turned out that supply exceeded demand, the vacancy rate in 2003 being 16.9%. The vacancy rate increased in locations outside the Warsaw central area, but in the Central Business Area (CBA) the rate has remained unchanged. A large part of the vacant space is concentrated in several buildings – at the end of 2002 the CBA had 6 buildings with vacant space exceeding 50% in these buildings (11). Market analysts anticipate that over time the vacancy rate will fall (9).

The major investors in the office property market are Austrian and German funds (between 1998 and 2002 their share accounted for 62% of the value of transactions'). Figure 3 shows the main purchases.

**Figure 3: Cumulative Purchases**



Although the office market is the most developed transactions sector the number of deals is small, with 8 major investment deals concluded over the last two years, seven of which were in Warsaw. Over the last five years some €1 billion of office transactions deals have been concluded. In the opinion of many investors the Polish real estate market lacks modern investment products with long-term leases.

***Retail***

The retail property market is currently one of the most active sectors. It does not exhibit the same degree of spatial concentration as the office property market. Space ranging from first generation (hyper- and supermarkets) to fourth generation (gallerias with trading and amusement areas, offices and hotels) has been developed not only in Warsaw, but also in other major locations. The total supply of commercial retail space is estimated at around 3 million sq. m, with Warsaw accounting for some 900,000 sq. m. The space per 1000 of population in Poland (62 sq. m) is smaller than the average value in western countries. Furthermore, the purchasing power is several times as lower than in the West.

The most dominant player in the commercial retail space market is Tesco with 35 hypermarkets in Poland. Real (25) is next, followed by Hypernova (24), Auchan (16), Geant (15) and Carrefour (13). According to Collier's estimates, over 120 new international trading companies will have invested in Poland by the year 2005, targeting smaller urban areas and large-sized shopping centres (9).

The level of rents depends on size, location, as well as the lease period. On many city peripheries rents have fallen, but in city centres rentals have broadly remained steady. For well-located gallerias they have increased from 50 USD/ sq. m a month at the end of 2002 to 60 USD in 2003, and for the best locations lessees were willing to pay as much as 80-90 USD / sq. m a month. Outside Warsaw, Wrocław and Szczecin were the most expensive locations to lease small retail space (to 50 sq. m) – rents ranging from 3.0 to 9.0 USD/sq. m; space between 50 and 100 sq. m was the most expensive to lease in Krakow (28-30 USD/sq. m). As in the other western European cities, shoppers are prepared to shop in well-located gallerias that accommodate highly specialised categories of lessees rather than on the high street.

The retail space market offers high quality products with long lease periods, which is attractive to institutional investors. In this sector US investors prevail, in the years 1998-2002 they held 29% market share, the Danish (28%), the Dutch (24%) and the Germans (19%). In the retail market, as in the office market, leases have been shortened from 10 to 5 years.

### *Warehouses*

The warehouse market has gone through a period of strong development. Over 974,000 sq. m of the space has been developed in and around Warsaw, and outside Warsaw approximately 100,000 sq. m. In 2001 and 2002 rents fell, standing at around 5.5 USD/sq. m within the Warsaw limits and at 3.75-4.75 USD outside Warsaw. Rents have stabilised in 2003. The vacancy rate in warehouse space in Warsaw fell from 20% in 2000 to 12% in 2003. This sector is currently viewed as being at the bottom phase of the business cycle.

The expansion of trading chains outside Warsaw has captured developers' interest in building more space, where projects of the built-to-suit type have prevailed. Property analysts anticipate that this sector is likely to become much more active. A fall in unoccupied space is forecast with the expectation of small rental growth. The impetus for this will be the growth of the domestic economy and a larger market due to Poland's accession to the EU. The growth of warehousing space will be dependent on the expansion and development of the road system.

### *Residential*

The residential property market is the most real estate active sector– deals involving residential property account for approximately 65% (as of 2002[4]) of all market transactions.

[4] The market activity data has been derived from research by the Housing Economics Institute in Warsaw.

## 4. The Polish real estate market and other central European markets

The region of Europe encompassing Poland, the Czech Republic, Hungary and Slovakia is the most developed in Central and Eastern Europe. Poland is the largest country, both in area and population terms (Appendix, Table A3). In terms of growth and investment risk the overall ranking of Poland is third amongst the 13 CEE countries, preceded by Hungary and the Czech Republic (Appendix, Table A2). Investment risk is higher in Poland than in the leading countries of the region as a result of the relatively larger political risk, poorer reputation of creditors and restricted access to bank loans and credit (12). As for the overall progress of economic transition, in 1999 the European Bank for Reconstruction and Development ranked Poland more favourably than the Czech Republic and Slovakia. The only country preceding Poland was Hungary. It ahs already been noted that Poland has became the largest recipient of foreign direct investments among the CEE countries.

The encouraging outlook for many of the Polish macroeconomic indicators is tarnished by the considerably higher rate of unemployment – over 19% compared with 6% in Hungary and 7% in the Czech Republic. Furthermore, the distribution of employment patterns inhibits progress in high growth/high productivity sectors. For example, Poland has the largest proportion of the population employed in agriculture, 19.6%, compared with 4.9% in the Czech Republic, 6% in Hungary and 6.6% in Slovakia.

In the three largest CEE economies the real estate markets have evolved in line with the changes taking place in these economies. The most active sector has offices and in Warsaw the expansion came later than in Prague or Budapest (4). The Jones La LaSalle short-term rental cycle diagram (16) compares the relative positions of the various European markets. It shows both Prague and Budapest are ready to emerge from a bottoming-out position, ahead of Warsaw. This also suggests that these markets may not be synchronised in terms of performance. Section 5, *Creating Diversified Portfolios,* looks at the past performance of these markets.

An analysis of rents and rates of return by JLL suggests that commercial property markets have become more stable across the region (16). Markets have reached positions enabling future increases in rents and, due to falling capitalisation rates, growth in the capital value of commercial property. Many analysts take the view that the most important sector will remain offices (9, 16), even though the accession to the European Union will contribute to the expansion and further development of all types of property sectors in the region.

### *Outlook*

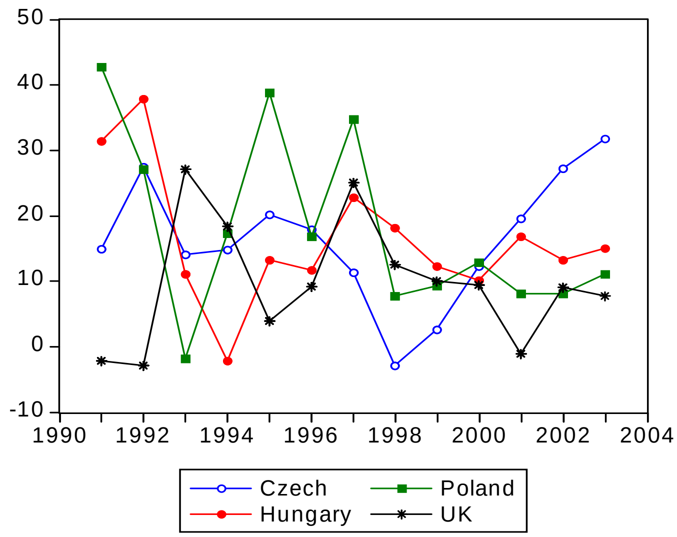
In the short to medium-term the lifting of barriers that hamper the purchase of land for development will encourage market recovery, thereby boosting the supply of modern property facilities across all sectors within CEE. In the medium-term, current market anticipations are that rates of return will fall across all real estate markets, from today's 9.5-12% to European averages of 5-8%.  One view is that Warsaw and other selected cities in Poland may offer better *long-term* prospects for the development of a thriving office market than competitors in the region (9). This is due to the size of the Polish market, as well as availability of land for development in city centres. In the long-term, structural changes will stimulate the economy, the work force gradually migrating from agriculture to the manufacturing and service sectors. This will have knock-on effects for real estate markets, where for the demand for all types of commercial property is likely to rise.

## 5. Creating diversified portfolios: opportunities in CEE countries?

In this section we look at the potential diversification opportunities across the three largest CEE markets, the Czech Republic, Hungary and Poland, from the perspective of a UK investor. Over the last 10 years these three CEE countries have experienced rates of economic growth exceeding those of western European countries, which has been a contributory factor leading to high real estate investment returns.

Figure 4 shows the total return profile across all property types, 1991-2003, for prime property for the three markets and the equivalent UK market, being IPD prime investments.

**Figure 4: Total Rates of Return**




Source: CWHB

Recent volatility in returns is less than in the early part of the period. The summary statistics for the total rates of return series are shown in Table 2:

**Table 2: Summary statistics**

| | Czech | Hungary | Poland | UK |
|---|---|---|---|---|
| **Mean** | 16.27 | 16.27 | 17.91 | 9.72 |
| **Median** | 14.92 | 13.27 | 12.92 | 9.20 |
| **Maximum** | 31.83 | 37.85 | 42.73 | 27.14 |
| **Minimum** | -2.86 | -2.12 | -1.85 | -2.83 |
| **Std. Dev.** | 9.66 | 10.00 | 13.71 | 9.48 |
| **Skewness** | -0.30 | 0.60 | 0.61 | 0.45 |
| **Kurtosis** | 2.69 | 3.51 | 2.17 | 2.39 |
| **Jarque-Bera** | 0.25 | 0.93 | 1.19 | 0.65 |
| **Probability** | 0.88 | 0.63 | 0.55 | 0.72 |

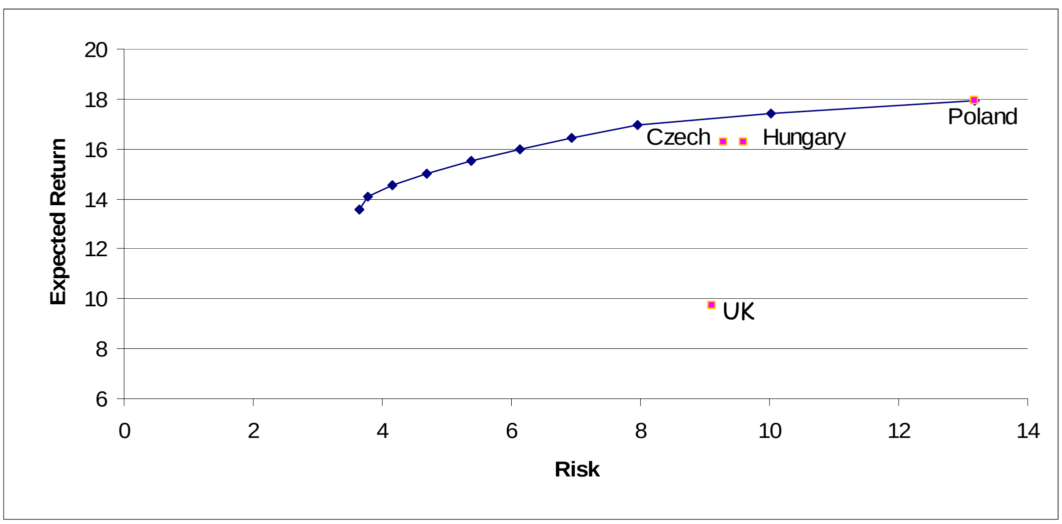
Over the period the UK has delivered the lowest average return, and by a considerable margin. Poland has produced the highest return and also had the highest volatility of return. One point of note is that the *Jarque-Bera* test does not reject normality of returns distribution. The correlation structure between the returns is shown in Table 3:

**Table 3: Total Rates of Return Correlation Matrix**

| | Czech | Hungary | Poland | UK |
|---|---|---|---|---|
| **Czech** | 1 | | | |
| **Hungary** | 0.174 | 1 | | |
| **Poland** | 0.125 | 0.495 | 1 | |
| **UK** | -0.368 | -.506 | -0.337 | 1 |

It is seen that the performance of the Czech market is poorly correlated with the other two CEE markets and negatively with the UK[5]. The highest correlation is between Poland and Hungary, being 0.495. The UK is negatively correlated with all three markets. The implication is that the very low levels of correlation are likely to offer considerable diversification opportunities. These figures have been used to construct an efficient frontier showing the best risk-return payoff. This is shown in Figure 5.

**Figure 5: Efficient country investment mix**




[5] The low correlations arise from the low correlations in the underlying components of total return. The correlations between rental growth in each country and between yield changes in each country are very small.

Two features are evident: a considerable reduction in risk could have been achieved by investing across the markets, and, the relatively poor performance of the UK market in comparison to an efficient investment strategy. The portfolio structures underlying the efficient frontier in Figure 5 are shown in Table 4:

**Table 4: Portfolio structures**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Expected Ret (%)** | 13.58 | 14.06 | 14.54 | 15.02 | 15.51 | 15.99 | 16.47 | 16.95 | 17.43 | 17.91 |
| **Standard Deviation** | 3.65 | 3.78 | 4.15 | 4.70 | 5.37 | 6.13 | 6.94 | 7.97 | 10.02 | 13.17 |
| **% Holdings** | | | | | | | | | | |
| **Czech** | 25.01 | 28.36 | 31.70 | 35.05 | 38.40 | 41.74 | 45.09 | 43.77 | 29.32 | 0.00 |
| **Hungary** | 26.73 | 26.73 | 26.73 | 26.73 | 26.73 | 26.73 | 26.73 | 14.92 | 0.00 | 0.00 |
| **Poland** | 5.75 | 8.95 | 12.14 | 15.34 | 18.54 | 21.73 | 24.93 | 41.32 | 70.68 | 100 |
| **UK** | 42.51 | 35.97 | 29.42 | 22.88 | 16.34 | 9.79 | 3.25 | 0.00 | 0.00 | 0.00 |

It is seen that the global minimum variance (smallest risk) portfolio consists of 57.5% allocated to the CEE markets. Also, the performance of this portfolio exceeds the UK portfolio by 376 basis points and at considerably lower risk, 3.65% against 9.48%. As the appetite for risk increases an increasing proportion of Polish real estate is held. Table 5 shows the position of a portfolio having the same risk as the UK. Returns are increased by over 750 basis points. The composition of the portfolio is such that 60% would have been held in Polish real estate with holdings in UK property. In practice, the position would be constrained by a more realistic investment policy that included (considerable) exposure to the UK market.

**Table 5: County mix having same risk profile as UK**

| Country | Allocation | |
|---|---|---|
| CZECH | 40.1% | |
| HUNGARY | 0.3% | |
| POLAND | 59.6% | |
| UK | 0% | |
| | Portfolio | UK |
| Return | 17.25 | 9.72 |
| Risk | 9.11 | 9.11 |

The figures show that, on the basis of past performance, investing across the three CEE countries results in a considerable improvement in risk-return payoff. Indeed, it is anticipated that average capitalisation rates for prime office space in Warsaw have further to fall, from 9-10% in 2003 to 8-9%. Downward trends can also be observed in other central European countries as well (2).

The results are subject to all the qualifications when undertaking such analyses, in particular the estimation risk surrounding the input values in arriving at the efficient frontier. Furthermore, the figures are based on gross returns, having ignored transactions costs. It is also assumed that the underlying properties could have been bought in these markets. Nevertheless, if the underlying correlation structures, or similar, are likely to endure, the figures are suggestive that diversification potential may exist within these markets; there will be 'some benefit' in considering these markets. However, a more detailed forward looking analysis of the economic and property demand/supply drivers within these markets is necessary in order to arrive at an informed view regarding future performance and risks.

## 6. Conclusion

The period over the 1990's can be characterised as one in which the old communist economic model was replaced by economic reforms leading to a market economy. The Polish economy has moved from a centrally planned economy to a system of market-based rules. The process of economic and political reform has witnessed drastic economic steps that included opening-up the market to international competition, the abolition of subsidies and huge privatisation.

Although 27% of the labour force remains employed in agriculture, the contribution to GDP is only 5%. Currently, the private sector contributes some two-thirds towards economic output.

The benefits of being part of the EU are likely to be gradual, a continuation of the lead-in process prior to Poland formally joined the EU in May 2004. In line with other Eastern European stock markets, Polish shares have been trading at a discount relative to their developed western European market peers. This valuation gap will close over the medium term as the Polish economy gradually gathers momentum and qualifies for entry into the euro-zone. It is anticipated that the euro will be introduced in 2008. The performance of the real estate market is likely to mirror this in the convergence of yields.

The Polish property market is illiquid with very few transactions and, therefore, given the limited availability of investment opportunities for diversified real estate exposure, stock selection will drive performance. However, this is also the position in more developed European real estate markets. In common with these markets, specific risk at the individual property level carries greater weight than systematic risk, providing the opportunity for alpha (out-performance) generation. Given the large differential between western European yields and current levels of Polish yields, there is the potential for capital growth as the convergence in yields over the longer term takes place. Furthermore, the on-going shortage of available investment grade property is expected to continue to drive yields down. Over the long term a re-rating will to take place, bringing yields closer to western European levels.

An encouraging factor in favour of rising standards in central European markets over the next five years is the anticipation of higher GDP and consumer expenditure growth compared with the EU average (1). The economic knock-on effect will benefit real estate rental growth, investment opportunities and development prospects.

The growth of the economies and real estate markets in the CEE countries will be such that these markets are likely to deliver a profile of performance different to that in western markets. That is, investment performance will not be synchronised. This will present opportunities for diversification across these markets. However, given the relatively small market size in each country, the levels of risk are likely to be greater than in more developed, and more liquid, markets. The implication is that stock selection, rather than a sector or country play, will dominate performance.

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Appendix

**Table A1: Major indicators**

| Years | GDP (%) | Unemployment rate as of the end of the year, % | Inflation % |
|---|---|---|---|
| 1990 | - 8.0 | 6.5 | 585.8 |
| 1991 | -7.0 | 12.2 | 70.3 |
| 1992 | 2.6 | 14.3 | 43.0 |
| 1993 | 3.8 | 16.4 | 35.3 |
| 1994 | 5.2 | 16.0 | 32.2 |
| 1995 | 7.0 | 14.9 | 27.8 |
| 1996 | 6.0 | 13.2 | 19.9 |
| 1997 | 6.8 | 10.3 | 14.9 |
| 1998 | 4.8 | 10.4 | 11.8 |
| 1999 | 4.1 | 13.1 | 7.3 |
| 2000 | 4.0 | 15.1 | 10.1 |
| 2001 | 1.0 | 17.5 | 5.5 |
| 2002 | 1.4 | 20.0 | 1.9 |
| 2003 | 2.7 | 20.0 | 0.8 |
| 2004[x] | 4.35[x] | 18.5[x] | 2.3[x] |
| 2005[x] | 4.2[x] | 17.7[x] | 2.1[x] |

[x] forecast

Source: - GDP, rate of unemployment, inflation– Central Statistical Office (GUS)

[x] - Forecast of the Institute for Market Economy

**Table A2: Ranking of countries by level of development and stability**

| State | Growth | Stability/Risk | Total |
|---|---|---|---|
| Hungary | 1 | 1 | 1 |
| Czech Republic | 2 | 3 | 2 |
| Poland | 3 | 4 | 3 |
| Estonia | 4 | 2 | 4 |
| Slovakia | 5 | 6 | 5 |
| Slovenia | 6 | 5 | 6 |
| Lithuania | 8 | 7 | 7 |
| Russia | 7 | 11 | 8 |
| Latvia | 9 | 8 | 9 |
| Bulgaria | 10 | 9 | 10 |
| Turkey | 12 | 10 | 11 |
| Romania | 11 | 13 | 12 |
| Croatia | 13 | 12 | 13 |

Source: Cushman & Wakefield Healey & Baker Research

**Table A3: Basic indicators (as of 2002)**

| Specification | Poland | Czech Republic | Hungary | Slovakia |
|---|---|---|---|---|
| 1. Area – thousands of sq. $m^2$ | 312.7 | 78.8 | 93.0 | 49.0 |
| 2. Population – million | 38.2 | 10.2 | 10.1 | 5.4 |
| 3. GDP per capita (current prices, thousands €) | 5.2 | 7.2 | 6.9 | 4.7 |
| 4. Structure of employment (%) | | | | |
| -2 agriculture | 19.6 | 4.9 | 6.0 | 6.6 |
| -3 industry and building | 28.6 | 40.1 | 34.2 | 38.2 |
| -4 services | 51.8 | 55.0 | 59.8 | 55.3 |
| 5. inflation against the previous year | 1.9 | 1.4 | 5.2 | 3.3 |
| 6. rate of unemployment (%) | 18.1 | 7.3 | 5.6 | 18.6 |

Source: GUS Regular Report, European Commission 2002