

THE PENNSYLVANIA STATE UNIVERSITY

SCHREYER HONORS COLLEGE

DEPARTMENT OF INSURANCE AND REAL ESTATE

THE ECONOMIC PROSPECTS FOR INVESTING IN STUDENT HOUSING

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## Abstract

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For the purposes of this thesis, we will be analyzing off-campus student housing – a type of housing which caters specifically to the needs of those full-time students, both undergraduate and graduate alike, who have decided to forgo the university-managed alternatives. Differences abound between off-campus housing and its university managed counterparts. First, with the absence of university housing behavioral covenants and Resident Advisors (RA's) in place to better micromanage its residents, off-campus student housing is more management intensive than comparable investment alternatives. Second, university-managed student housing alternatives more often than not require subscription to a meal plan, much along the same lines of Penn State's "Ala Board Meal Plan". Third, although off-campus student housing is open to all majors, minors, and years of tenure, its largest demographic consists of upperclassmen looking for more freedom while the university alternative's primary demographic consists of freshman who are required to live on campus. Lastly, leases are typically signed for the duration of the fiscal year for off-campus housing as opposed to paying for the academic year under university housing arrangements. We will be performing an industry-wide demographic and market analysis to provide a big picture of the overall student housing economic environment. We then intend to take a micro perspective and conduct a case study for Penn State in particular – studying the broader demographics for the state of Pennsylvania and drilling down to the prospects the micro market that Penn State holds for investing in student housing.

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## I. Introduction

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Job losses continue to mount, demand for commercial real estate has and is predicted to remain down for some time, vacancy rates are high, and property values have fallen significantly as a result of the recent financial crisis. Larger vacancy rates coupled with sharp declines in the market value of property are placing an incredible amount of pressure on commercial real estate property owners and investors. An increase in property vacancy reduces the cash flow needed on a regular basis to service the investor's debt obligations. Lower property values mean more loans lead to underwater situations meaning that the value of the loan is greater than the value of the property. Commercial mortgages being underwater pose a great deal of risk to the bank making the loan. Commercial property values have fallen more than 40 percent since the beginning of 2007 and the 85% loan-to-values (LTVs) that were acceptable at the origination of the loan, have now been pushed to 140%. This makes refinancing the loans impossible because these investments are now severely over-levered – selling the investment or defaulting on the loan will be the only recourse available ([distressedvolatility.com](http://distressedvolatility.com), February 3, 2010). As a result, when commercial loans come due, defaults are inevitable and losses at banks will be substantial. Due to the fact that commercial loans are typically signed for 3-5 years at a time as opposed to a typical 15 or 30 year mortgage on a residential property, many of these loans are coming due to mature between 2010 and 2014. To compound upon this problem, many of these loans also would not qualify for refinancing due to today's more stringent banking standards.

Student housing has only recently caught the eye of large institutional money flow, as investors are looking to preserve exposure to real estate as a means of maintaining a well diversified portfolio, but do not wish to be subjected to the uncertainty in store. Demand for student housing has been stimulated by strong demographic trends coupled with the insufficient dormitory capacity/supply provided by the universities. The recession has caused the steepest decline in state tax receipts in recorded history and states are finding it difficult to collect the revenue needed to support vital public services (McNichol and Johnson, February 25, 2010). The tightening of many state budgets is only compounding upon the supply shortage as many public universities rely on state budget allotments to help finance operations. Research forecasts suggest that college enrollment is expected to increase dramatically in the foreseeable future. The National Center for Educational Statistics reported a similar increase in full-time college student enrollment over the decade leading up to 2004, with growth approaching 30%. In fact, the U.S. Department of Education projects that college enrollment is expected

to expand over 13.2%, with the greatest increase over the next 10 years, adding approximately 1.4 million full-time students to campuses nationwide (NCES, 2009). As there will be a further influx of full-time students, who represent the majority of on-campus housing residents, currently there is a growing need to reevaluate existing and in many cases, obsolete, university housing alternatives. New student housing investment may be welcome in light of strong demand and weak supply in many markets.

For the purposes of this thesis, we will be analyzing off-campus student housing – a type of housing which caters specifically to the needs of those full-time students, both undergraduate and graduate alike, who have decided to forgo the university-managed alternatives. Differences abound between off-campus housing and its university managed counterparts. First, with the absence of university housing behavioral covenants and Resident Advisors (RA's) in place to better micromanage its residents, off-campus student housing is more management intensive than comparable investment alternatives. Second, university-managed student housing alternatives more often than not require subscription to a meal plan, much along the same lines of Penn State's "Ala Board Meal Plan". Third, although off-campus student housing is open to all majors, minors, and years of tenure, its largest demographic consists of upperclassmen looking for more freedom while the university alternative's primary demographic consists of freshman who are required to live on campus. Lastly, leases are typically signed for the duration of the fiscal year for off-campus housing as opposed to paying for the academic year under university housing arrangements. We will be performing an industry-wide demographic and market analysis to provide a big picture of the overall student housing economic environment. We then intend to take a micro perspective and conduct a case study for Penn State in particular – studying the broader demographics for the state of Pennsylvania and drilling down to the prospects the micro market that Penn State holds for investing in student housing.

## II. Review of the Literature

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### The Upsides

One of the most attractive attributes of the economic environment surrounding the niche market of student housing is a widening gap that is growing between supply and demand. The secular growth in the number of enrolled students coupled with strong demographic trends is driving demand. Meanwhile, the fact that universities are finding it difficult to come up with the funds to build more dorms to accommodate demand in light of other expenses and overhead, is a contributing factor to the lack of student housing supply in the marketplace (Ronan, August 20, 2006). A college education is a highly valued commodity to have in both good and bad economic conditions and as such, lends to the non-cyclical nature of demand for student housing. In a good economy, a college education will differentiate an individual from his or her peers. In a bad economy, college attendance will provide an option for individuals to improve the attractiveness of their resumes while simultaneously remaining productive in a difficult job environment.

### The Gap Widens

A review of the evidence available confirms that demand for the rental market is growing largely due to demographics – specifically the babies of the Baby Boomers (Mullins, February 1, 2010). Born between 1977 and 1995, a wave of nearly 80 million “echo boomers” are approaching the age at which they are beginning higher education, and they'll be filling college classrooms for quite some time. Echo boomers comprise a third of the American population and spend hundreds of billions of dollars annually. They are also highly educated. (CBS News, September 4, 2005)

While overall population trends bode well for the sector, college enrollment trends look even better. The gross number of college students has grown over the past decade at a modest, yet consistent, rate of 2.5% (Motley Fool, December 16, 2009). Steady growth ensures stability and ever-present demand for the marketplace. Between 1995 and 2014, the growth rate in enrollees is expected to exceed the growth rate of 18- to 24-year-olds, meaning a greater percentage of college-age students will be attending universities (Levy, Tucker, 2006). In an article by (Marino, August 20, 2006), “College-town Real Estate: The Next Big Niche?”, the author suggests that investing in student housing is attractive for a number of reasons. One reason is that the diminishing supply of on-campus housing is

being coupled with a demographic boom in student enrollment, or in other words a widening demand. The baby boomer's children, often referred to as echo boomers, are "coming of age" and now enrolling in college. One reason for the limited supply of on-campus housing is the college or university's lack of funds to supply the growing demand. Investors need to seriously consider student housing for the demographics that have been, and will be driving demand.

Student-housing investments are also believed to have a number of stabilizing attributes with respect to supply. Construction lead times for student-housing projects are generally assumed to be shorter than those for most other property types. This attribute helps to maintain a better balance of the existing supply with demand as projects move into and out of the pipeline at a faster rate. Also, if the demand for the property is found to be weaker than projected, development often can be scaled back and completed in phases as demand warrants. For example, The Pennsylvania State University's largest housing project ever was based on a four-year time frame (Ezarik, April 2006). Officials wanted Eastview Terrace to open for the Fall 2004 semester instead, it opened a year early. "They cut six months off the design and six months off the construction," said Sandra J. Harpster, director of Student Housing. Eastview opened on time.

## Recession Proof

Student housing is a "relatively safe investment that can provide a decent income year in, year out. Ideally, student housing should not be linked directly to the economic health of the country, or the stock market." (Motley Fool, December 16, 2009). This investment is counter-cyclical in nature. Although we have experienced a severe recession, college enrollment figures are actually up (MacDowell, March 27, 2010). Poor economic conditions have simply increased the attractiveness of higher education for the growing children of the baby boomers. In addition to an increase in the attractiveness of higher education during tough economic times, the fact that demand for student housing isn't necessarily tied to common external economic factors such as the job market makes this form of investment resilient to bad economic times and thus an attractive vehicle to invest in as well. In further support of the assets class resilience to bad economic conditions is the underlying principle that universities will always have students enrolled and thus there will be a steady and ever-present demand for housing. To compound upon steady enrollment, many students today take longer to graduate – remaining in student housing longer than previous generations. In fact, according to an observation of



enrollment patterns almost 40% of today's undergraduates are over the age of 24 (College Board, October 18, 2005).

## Steady Income Stream and Implications

Another reason that makes student housing an attractive investment vehicle is the fact that there is simply very little, if any, vacancy on average – particularly shocking considering that in other real estate investments, such as self storage, vacancy rates can approach 50% or more. These predictably low vacancy rates have a very positive impact on the steadiness of cash flows. Many large University towns experience vacancy rates of just 3% or lower – sometimes vacancy rates approach 100% (Motley Fool, December 16, 2009). The steadiness of cash flows associated with a real estate investment is very important to the investor because it is also important to the lender. Banks are more likely to make loans on student housing deals, especially in this economy, than on other real estate deals. The cash flows are steady and positive even in bad economic times, which provide added confidence to the banks that their loans will be repaid. The story is not the same in other sectors of the real estate market today where in some cases, banks are unwilling to lend anything at all. Also contributing to the steadiness of the cash flows is the fact that rental rates for student housing have not only been rising year over year on average but have also been outpacing inflation (Levy and Tucker, 2006). Students must live somewhere and will show up regardless of local unemployment levels or other external economic factors. This means that raising rents is easier in light of the fairly inelastic demand for housing. This may help to explain why percentage increases in rents have been outpacing inflation (Jackson, December 5, 2009).

## The Downsides

There is a combination of dynamic variables, both internal and external, that make student housing a unique niche investment opportunity with unique risks to consider as well. Changes in general economic conditions (i.e. interest rates, unemployment, credit markets, energy prices etc.) can impact the performance of a real estate investment. Unique risk factors, such as the illiquid nature of real estate and student housing's management intensive nature, also represent downside risk to investing in student housing.

## The Threat of Rising Interest Rates

Estimating the value of a real estate investment typically involves the manipulation of three basic statistics. These statistics include:

1. **Income:** a record of the cash flows generated each year in the past as well as cash flows projected into the future.
2. **Cap Rate:** the cap rate is simply a metric that is derived from the sale of comparable properties.
3. **Value of the property:** can be obtained through manipulation the income a property generates and the property's cap rate.

$$\text{Value} = \text{Income} / \text{Rate}$$

The higher the interest rate, the larger the denominator, the lower the value estimated for the investment. The threat of rising interest rates will almost certainly have an affect the value of a real estate investment given the IRV approach. An environment characterized by high interest rates will require both the investor to seek and lender to approve an investment that generates higher cash flow. The investor will need an otherwise larger stream of cash flows to earn a required rate of return and the lender will require greater cash flow in order to ensure that the debt will be serviced.

## Liquidity or Lack Thereof

Markets are efficient – some more so than others. The stock market, for example, is in large part extremely liquid, heavily participated/traded in, and for these reasons an example of an informationally efficient market. Opportunities that arise are largely taken advantage of almost immediately. Real estate is slightly different, however. Real estate is not a very liquid instrument, certainly not on the scale that the stock market is, and as a result, opportunities that arise are not known to all investors immediately and are not capitalized on in a swift motion as many of the transactions are large and complex. The opportunities in real estate, in particular the widening gap between the demand for and supply of student housing, will not last forever as such inefficiencies will be sought out by savvy investors and exploited in due time (Carr, Lawson, and Schultz, 2003). The downside of a healthy market of good returns and opportunities, like those that are being seen in the student housing market at the present time, is that it will not last for long as construction levels will rise.

The macro effect is that supply will chase and eventually overtake demand. The lack of liquidity for the commercial real estate market is also being compounded upon by the recent financial crisis and unwillingness of banks to go out and make loans. Lenders are afraid of being exposed to commercial real estate given the uncertainty of its future and are tightening on real estate loans by raising the criteria for lending. In an effort to reduce the risk profile of the commercial real estate loans on their books, Government-Sponsored Enterprises (GSEs), such as Fannie Mae and Freddie Mac, have raised both their debt service coverage and loan to value ratios placing constraints on investors to take on less debt by putting up more equity (Ascierto, August 31, 2009). However, the good news for student-housing investors is that there is a chance that the weak economy and tighter credit conditions may actually help to balance the supply and demand of student housing by limiting the number of potential products in the pipeline for the future.

## Management Intensive

One additional downside factor is that student housing is extremely management intensive due to incredibly high turnover rates that could reach as high as 100 percent in some cases. Not only is turnover quite high as students graduate and move out but the turnover period is also very short. There is a narrow window of time with which to prepare a dwelling after one tenant moves out and another tenant moves in. There are hefty expenses due to the investment's management intensive nature. These expenses can include the following: real estate taxes, high insurance premiums due to the typical reckless behavior of college students, utilities, repair etc. As a result of the management intensive nature of student housing, an investor needs to set aside higher capital expenditure reserves each year in anticipation of higher rates of repairs, maintenance, and improvements due to more wear and tear on the property. To compound upon the existence of these expenses, there are some operating expenses that are difficult to control for. Operating expenses can escalate for reasons outside the control of the real estate investor. A few unpredictable expenses include: rising energy costs, insurance premiums and real estate taxes. A building's energy requirements may be forecasted with a degree of certainty, however, the cost of energy is subject to the supply and demand constraints in the marketplace. Insurance premiums can change over time due to changes in the market or the individual insurance company. Real estate taxes may change over time due to changes in the value of local real estate, since higher assessed property values will be charged more in taxes.

The credit worthiness of the tenant base adds a layer of complexity to the management of a student housing project. Most college students have little if any credit history at all. Therefore the co-operation with student's parents to co-sign or guarantee leases is essential to reducing the risk of delinquent tenants and.

## Convertibility and Lease-Up

Student housing has a much higher annual turnover rate among tenants than other property types, with the obvious exception of hotels. The annual turnover rate in apartments is around 60% (Anderson, McLemore, Connor, Liang, 2003) and for student housing apartments 70-80 percent (asumag.com, February 1, 2001). By comparison, the annual turnover rate for an office building with multi-year lease arrangements is a fraction of this amount. Tenants are more inclined to renew their leases in other property types, such as office, industrial, and retail due to a higher degree of customized space build-outs and other improvements made by the tenants themselves.

Compounding upon the turnover rate and period is the fact that student housing, as compared with other forms of real estate, is not easily converted into alternative uses in the event that the space is not occupied - this may mean a loss due to vacancy for the period of an entire year. Leasing up the property is also a problem due to the high turnover rate that is coupled with the extremely short turnover period – typically right before the beginning of the new school year.

## Alternative Investment Vehicles

There are a couple different mediums that can be used to invest in student housing. The bulk of the multi-billion dollar student housing market has been cornered by large institutions. Some of these institutions are private and only open to large investors, but some are also publicly traded as REITs. Another medium to invest in student housing would be through Tenants In Common (T.I.C.'s) programs that allow fractional ownership of properties. A real estate investment trust, or REIT, is a company that owns, and in most cases, operates income-producing real estate (mack-cali.com).

To be a REIT, a company must distribute at least 90 percent of its taxable income to shareholders annually in the form of dividends. In order for a company to qualify as a REIT in the U.S., it must invest at least 75 percent of its total assets in real estate, while deriving at least 75 percent of its gross income in the form of rents (mack-cali.com). REIT's allow shareholders to participate and diversify

their portfolios by investing in student housing without being burdened by the responsibilities associated with physical ownership of the properties.

What many investors may not like about REITs, however, is the loss of individual control. While the trials and tribulations associated with property management may have been averted, one also relinquishes direct control over important investment decisions such as the when, what, where, why and how: properties are purchased and sold, improvements are or are not made, rental rate adjustments to account for present economic conditions, etc.

Potential issues to consider before investing in a REIT include the following:

1. The economic conditions where the key holdings are located.
2. Past performance of the REIT and future projections.
3. The overall state of the real estate market (i.e. what part of the real estate cycle are we in?)

However, yet another one of the advantages in buying a REIT compared with physical real estate is a dramatic increase in liquidity as it is a publicly traded entity.

## Conclusions Based on My Review of the Literature

This review of the literature has led to some interesting supporting arguments in favor of investing in student housing, as well as addressed some important issues regarding the risk and issues associated with such an investment.

The pros of investing in student housing include the following:

1. There are strong underlying demographic trends that are driving demand for this asset now and well into the future.
2. University-supplied housing alternatives are becoming scarce due to budget restrictions. This dilemma for universities represents an opportunity for well-informed investors to step in and service the demand.
3. There is steady rental rate growth and high occupancy rates in the student-housing arena. As a result, cash flows are reliable and smooth relative to other investment categories. These benefits are functions of the fact that student housing has been observed to be a counter-cyclical investment.

4. The barrier-to-entry into this market is not as high as other investment alternatives. REITs offer liquidity and exposure to the student housing market for just about everyone. There are some advantages available through a “Kiddie Condo Loan” (FHA mortgage) that make investing in student housing more attractive as well. If one purchases a home with the assistance of a relative with good credit, the investor may only need to put down only 3% for the purchase.

The cons of investing in student housing include the following:

1. There are opportunities in the market now. However, smart investors will start to flood the market with dollars and put projects in the pipeline. The result is that supply will not only catch up but it will inevitably exceed demand.
2. The inability in many cases to convert space that fails to lease when the school year begins, is a big downside to investing in student housing as that space will possibly sit vacant for the remainder of the year not earning any rent.
3. The lack of liquidity in the real estate market means that getting rid of an underperforming asset is not quick or as easy as it might be in more liquid markets like stocks and bonds.
4. There are hefty expenses incurred with student housing as these properties are highly management intensive.

### III. Evaluating the Student Housing Market

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#### Demographics and Market Analysis

##### Rise of the Echo Boomers

One of the driving forces behind the demand for real estate in general is population growth – there is strength in numbers. For student housing, it is a growth in the population entering the age range of 18-34 where most are likely to enroll in college and/or rent a place to live. This segment of the population is being referred to as the “Echo Boomers”. The U.S. Census Bureau has released statistics placing the Echo Boomer population at nearly 80 million – the impact of such a large segment of the population on the economy now and in the future should not be underestimated. Echo Boomers are the children of the Baby Boomer generation and were born between the years 1977 and 1995 (Adler, June 22, 2009). The implications of the aging Baby Boomer generation have been well studied as they represent a large demographic approaching retirement. Similarly, their children the Echo Boomers are approaching an equally significant milestone in their lives as they will be entering college. Student housing is becoming one of the apartment industry’s most important niche opportunities as a result of the increasing number of college-age students (NMHC survey, 2004).

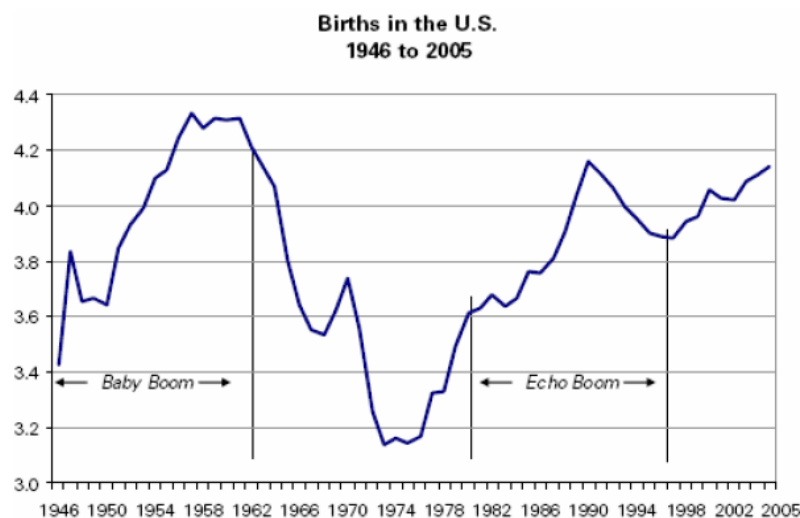


Figure 1: source: National Center for Health Statistics, RREEF

## College Enrollment Rates

A college education is becoming vital for career success during such bad economic times and in a world that is becoming increasingly global and competitive. Research suggests that enrollment in community colleges is inversely correlated with changes in unemployment and broader economic conditions (Betts and McFarland, 1995). In light of this fact and current economic conditions, college enrollment rates have been on the rise. In fact, newly released Census Bureau data indicate that college enrollment among 18- to 24 year-olds reached an all-time high last year (Fry, October 29, 2009).

The immediate college enrollment rate is defined as the percentage of all high school students aged 16–24 who enroll in college (2- or 4-year) in the fall immediately after high school. In most years between 1972 and 1980, this rate was approximately 50 percent. It subsequently increased to 67 percent by 1997 and then decreased to 62 percent by 2001. Since 2002, the rate has fluctuated between 64 and 69 percent (NCES Fast Facts, 2008).

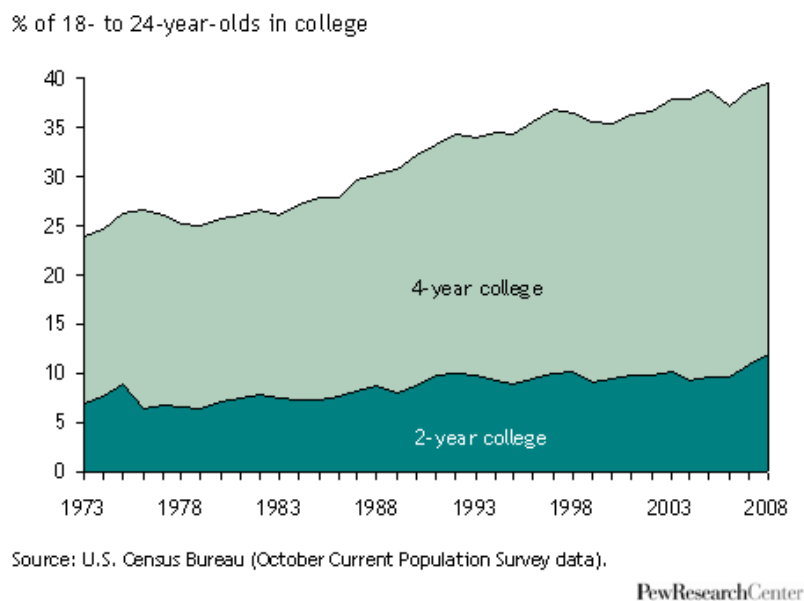


Figure 2: College Enrollment Among Trends of 18-24 year olds, 1973-2008

The oldest of the echo boomers are just finishing their undergraduate education and with an average of more than 4 million echo boomers reaching the age of eighteen each year, college enrollment is forecasted to remain strong for some time (RREEF Research, 2005).

To compound upon the demographics driving demand in student housing, the government has also stepped in and proposed a plan to further bolster demand for higher education. The American



Graduation Initiative or AGI promises to provide an unprecedented amount of aid to community colleges, with the goal in mind of once again “...having the highest proportion of college graduates in the world...” calling for an additional five million graduates by 2020. AGI is a 10-year, \$12 billion dollar plan that will help underfunded community colleges expand course offerings and other services to increase the attractiveness of higher education along with making college more affordable and therefore more accessible – the obvious implications of which broaden the demand base for the already strong student housing market (Milshtein, March 2010) and (whitehouse.gov, July 14, 2009).

## Housing Supply

In an effort to cope with a bad economy, states are tightening budgets and funds allocated to the education system. California, for example, has cut billions of dollars from its public secondary education system (Herbert, March 19, 2010). The decline in funding and subsidies from respective state government bodies, coupled with a strong upward trend in college enrollment, is expected to force universities to accommodate a declining share of the student body with university-owned housing alternatives. Research suggests that only about 30 percent of the total current student population is being served by on-campus university-owned student housing ( “College Housing 2005 Special Report” in College Planning and Management Magazine, June 2005). With rising enrollment rates, there will be an increasing number of students that are going to be looking for off-campus housing alternatives.

To help illustrate the widening gap between supply and demand in the market place, Dormitory Capacity at Public 4-Year Institutions has fallen from 32.2% of undergraduates in 1990 to 24.8% more than a decade later – signaling that student housing supply has failed to keep pace with demand.

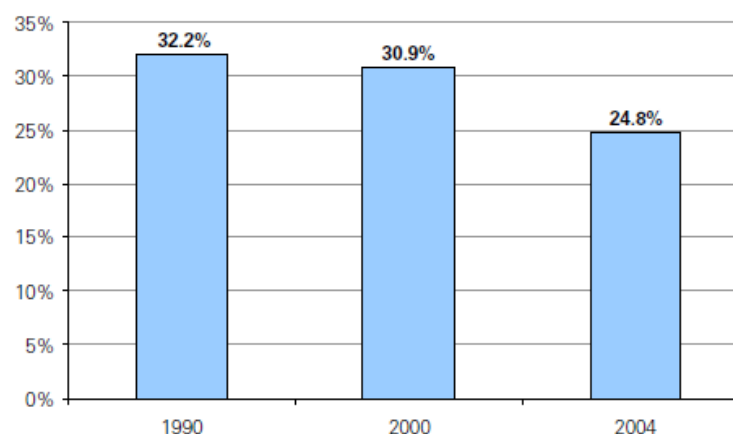


Figure 3: Dorm Capacity at Public 4-year Institutions (NCES, RREEF Research)

Among the top 15 states, ranked by enrollment, almost 2.5 million students are not being accommodated by university owned housing. This gap between supply and demand for student housing is greatest in those states that are home to some of the largest Universities - creating a niche opportunity for private developers and investors to meet the demand themselves.

<b>Dorm Capacity at Public Four-Year Schools Top 15 States by Enrollment (000s), 2004</b>				
<b>State</b>	<b>Undergraduate Enrollment</b>	<b>Dorm Capacity</b>	<b>Capacity as Share of UG Enrollment</b>	<b>Capacity Shortfall</b>
California	480.5	92.7	19%	387.8
Texas	391.7	77.9	20%	313.8
Florida	310.7	36.8	12%	273.8
New York	287.0	77.9	27%	209.1
Michigan	221.5	70.2	32%	151.3
Ohio	217.2	54.2	25%	163.0
Pennsylvania	211.3	70.5	33%	140.8
Indiana	163.3	38.7	24%	124.6
Georgia	160.6	36.2	23%	124.5
North Carolina	150.0	50.5	34%	99.6
Illinois	149.4	45.3	30%	104.0
Virginia	140.4	54.2	39%	86.2
Louisiana	131.8	26.5	20%	105.4
Wisconsin	128.1	35.9	28%	92.3
Colorado	124.2	25.3	20%	98.9
<b>Total</b>	<b>3,267.7</b>	<b>792.8</b>	<b>24%</b>	<b>2475.1</b>

Figure 4: Dorm Capacity at Public Four-Year Schools (NCES, RREEF Research)

## Market Participants

Only recently, between 2004 and 2005, has the student housing market attracted very large institutional interest in the form of real estate investment trusts or REITs. Two REITs in particular have become the largest industry investors by raising equity through stock offerings on the New York Stock Exchange. The companies and their stock trading symbols are American Campus Communities (ACC), and Education Realty Trust (EDR).

### American Campus Communities (ACC)

ACC was the first public student housing REIT, going public in 2004. The company is based out of Austin, Texas and focuses purely on ownership and management of student housing. ACC's business segments can be divided into three categories within the student housing niche:

1. The ownership and management of student housing investment properties located in close proximity to the target campus.

2. The development of new student housing for another party (i.e. university, charity organizations, etc.)
3. Property management for other firm's student housing properties.

(Zaransky, 2006)

One factor that makes ACC unique is the way in which they lease their space. ACC's properties offer individual-liability leases. For example if you have a roommate that shares an apartment with you, that roommate would be required to sign an entirely separate lease for his or her respective rent obligation. This is an attractive feature to prospective tenants because in the even a roommate defaults on rental payments, the other roommate is not obligated to make good on the full amount of the rent due (studenthousing.com, 2010).

### Education Realty Trust (EDR)

EDR is based out of Memphis, TN and focuses exclusively on developing, managing, and owning student housing. EDR is one of America's largest owners and operators with current ownership and management interests in 64 communities in 22 states with 37,835 beds (edrtrust.com, 2010). EDR also provides third-party property management services in addition to the ownership and management of its own student housing projects. One interesting attribute about EDR is that they place a great deal of emphasis on community building and student life via their residence advisor program and long list of amenities (SEC Filing 10-K, December 31, 2009).

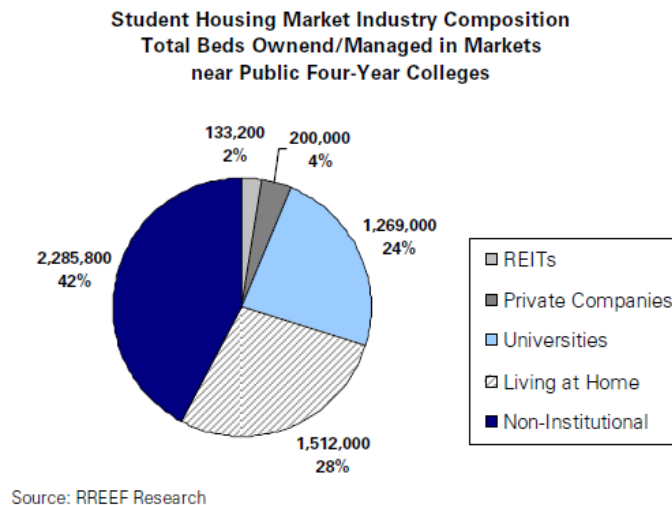


Figure 5: Student Housing Market Industry Composition (RREEF Research)

Despite their large size and aggressive growth, large institutions still make up a relatively small segment of the student housing market pie (only about 6%). On the other hand, non-institutional investors dominate the student housing market by making up the largest share of the pie (about 42%).

## Investment Criterion for Success

There are a number of principles to keep in mind when investing in student housing. Choosing the right campus will be an important step to take when evaluating a prospective student housing investment. The following are helpful indicators of the market potential/opportunity for the student housing investor (Zaransky, 2006):

- “High Growth” States
- University-Owned Housing Beds to Total Enrollment
- University student housing policy
- Aging student housing stock
- The Big Dogs: What the REITs looking for

## High Growth States

High growth states are those states that possess the characteristics necessary to drive demand for student housing – target population and college enrollment growth. The table below represents the 20 states that experienced the largest increases in target population growth over the past decade.

Rank	State	Change (2000–2010)	Percent Change
1	California	1,196,012 students	38.2%
2	Texas	395,320	18.6
3	New York	302,794	18.6
4	Florida	274,826	21.9
5	Massachusetts	142,520	26.0
6	Georgia	134,177	16.9
7	North Carolina	131,863	18.2
8	Virginia	122,361	18.5
9	New Jersey	105,659	15.1
10	Illinois	97,118	8.3
11	Arizona	96,911	20.8
12	Maryland	94,938	20.3
13	Pennsylvania	85,846	8.1
14	Washington	73,766	13.2
15	Tennessee	55,653	10.2
16	Connecticut	53,506	19.4
17	South Carolina	49,999	13.6
18	Colorado	49,826	12.0
19	Michigan	38,027	4.1
20	Alabama	35,155	8.1

Figure 6: Population Growth Ages 18-24 (Zaransky, 2006)

The government has also made higher education enrollment growth projections. The U.S. Census Bureau estimated the states in the figure below will have had the highest levels of college enrollment growth over the past decade.

Rank	State	Change	Percentage Change
1	California	783,020 students	34.0%
2	New York	174,633	16.6
3	Texas	161,494	15.3
4	Florida	131,348	18.2
5	Massachusetts	93,166	21.6
6	North Carolina	62,817	15.3
7	Virginia	61,833	16.0
8	Arizona	57,206	16.2
9	Illinois	50,144	6.7
10	Georgia	48,951	13.9
11	Maryland	47,497	17.1
12	New Jersey	46,459	13.8
13	Pennsylvania	39,318	6.4
14	Washington	34,192	10.5
15	Connecticut	27,816	17.1
16	District of Columbia	27,301	35.9
17	South Carolina	22,713	12.2
18	Colorado	22,707	8.4
19	Tennessee	21,319	8.0
20	Michigan	17,749	3.1

Figure 7: College Enrollment Growth 2001-2010 (Zaransky, 2006)

Not surprisingly, the two biggest institutional players in the student housing industry have concentrated their investments in the California, New York, Texas, and Florida markets which top both lists (Zaransky, 2006).

## University-Owned Housing Beds to Total Enrollment

The university-owned housing beds to total enrollment ratio is a metric that helps to determine whether or not a particular climate is favorable for investing in student housing. Quite simply, the metric is a ratio that illustrates the ratio of university-owned beds to the total number of students enrolled at that particular university. The logic follows that: the lower the ratio, the greater the shortage of university-supplied housing, the more demand there is for off-campus solutions, the more attractive the market is for investing in student housing.

(Largest university in each of the 50 states)				
University Name	State	School-Owned Beds, Fall 2004*	Enrolled Fall 2004	Ratio %
Boise State University	Idaho	850	18,456	4.60
U. of Alaska–Anchorage	Alaska	950	17,572	5.42
U. of Nevada–Las Vegas	Nevada	1,500	27,000	5.55
Portland State U.	Oregon	1,600	21,348	7.49
U. of New Mexico	New Mexico	2,400	25,031	9.58
Arizona State U.	Arizona	5,600	49,171	11.38
U. of Minnesota–Twin Cities	Minnesota	6,300	50,954	12.36
U. of Maryland–College Park	Maryland	8,700	34,933	12.36
U. of Texas–Austin	Texas	6,600	52,261	12.62
U. of Washington	Washington	5,000	39,199	12.75
West Virginia U.	West Virginia	3,600	25,255	14.25
U. of Southern Maine	Maine	1,600	11,007	14.53
U. of Hawaii–Manoa	Hawaii	3,000	20,549	14.59
Auburn U.	Alabama	3,400	22,928	14.82
U. of Florida	Florida	7,600	47,000	16.17
U. of Oklahoma	Oklahoma	4,300	24,569	17.50
Ohio State U.	Ohio	9,200	50,995	18.04
U. of Georgia	Georgia	5,800	30,824	18.81
U. of Iowa	Iowa	5,600	29,745	18.82
U. of Kansas	Kansas	5,500	28,849	19.06
U. of California–L.A.	California	7,200	37,563	19.16
U. of Kentucky	Kentucky	5,100	26,545	19.21
U. of Arkansas	Arkansas	3,200	16,461	19.43
Brigham Young U.	Utah	6,500	29,932	21.17
North Carolina State U.	North Carolina	6,700	29,637	22.60
U. of Wyoming	Wyoming	2,800	12,021	23.32
U. of North Dakota	North Dakota	3,200	13,187	24.26
U. of Colorado–Boulder	Colorado	7,100	29,151	24.35
Louisiana State U.	Louisiana	7,600	30,000	25.33
U. of Nebraska–Lincoln	Nebraska	5,600	21,792	25.69
Mississippi State U.	Mississippi	4,000	15,416	25.94
U. of Tennessee	Tennessee	7,300	27,800	26.25
U. of Wisconsin–Madison	Wisconsin	11,000	41,588	26.44
U. of South Carolina	South Carolina	6,800	25,596	26.56
U. of Illinois–Champaign	Illinois	10,855	38,291	28.34
New York U.	New York	11,000	38,188	28.80
Pennsylvania State U.	Pennsylvania	12,000	41,289	29.06
U. of Rhode Island	Rhode Island	3,900	13,435	29.02
South Dakota State U.	South Dakota	3,400	10,954	31.03
U. of Montana–Missoula	Montana	4,500	13,352	33.70
Indiana U.–Bloomington	Indiana	13,000	37,821	34.37
Virginia Tech	Virginia	8,900	25,420	35.01
U. of Delaware	Delaware	7,000	19,418	36.04
Michigan State U.	Michigan	17,000	44,836	37.91
U. of Missouri–Columbia	Missouri	10,000	25,527	39.17
Rutgers, State U. New Jersey	New Jersey	14,000	34,697	40.34
Boston U.	Massachusetts	11,000	26,704	41.19
U. of New Hampshire	New Hampshire	5,500	12,000	45.83
U. of Vermont	Vermont	4,000	9,273	43.13
U. of Connecticut	Connecticut	11,000	23,179	47.45

\*Number of beds rounded to the nearest hundred

Figure 8: University-Owned-Beds-to-Enrolled-Students Ratio (Zaransky, 2006)

## University Policy

Universities have different policies regarding requirements/restrictions for where enrolled students are permitted to live. Most universities, however, require students to live in a university-owned/approved housing alternative at least during freshman year. Given that most students want to move out of their dorm rooms as soon as they can, universities that allow sophomores and upperclassmen to live outside the dorms create a better real estate investment climate for student housing than those that limit off-campus living to upperclassmen and married students (Zaransky, 2006).

## Aging Student Housing Stock

The National Multi Housing Council (NMHC) conducted a survey of 64 major university student housing markets in 2004. The survey concluded that much of the student housing stock across the nation is getting old. Most private student housing apartment complexes were built more than 25 years ago in an effort to accommodate the single largest demographic driving demand at that time – the baby boomers. Recently the children of the baby boom generation have generated the largest level of school enrollment since the 1970 Baby-Boom Crest (U.S. Census Bureau, June 1, 2005).

An aging stock of university housing can provide ample opportunity for rental rate increases after rehab and improvements are made in an effort to modernize obsolete facilities. The tables below in Figure 6 provide a list of the oldest and newest student housing apartment stock according to the 2004 NMHC survey:

Newest <b>Student Housing</b> Apartment Building Stock by Average Year Built		Oldest <b>Student Housing</b> Apartment Building Stock by Average Year Built	
Georgia Southern University	1996	University of Dayton	1961
Auburn University (AL)	1993	University of Minnesota	1964
University of Central Arkansas	1992	University of Michigan	1964
University of Georgia	1990	Old Dominion University (VA)	1964
Illinois State University	1989	Syracuse University (NY)	1965
University of California-Irvine	1988	Idaho State University	1966
University of Texas-Austin	1988	University of Maryland-College Park	1967
Clemson University (SC)	1987	University of Connecticut	1968
University of Arkansas-Fayetteville	1987	Stanford University (CA)	1970
Appalachian State University	1986	University of Wisconsin	1971

Figure 9: Newest and Oldest Student Housing Stock (Zaransky, 2006)

Universities with newer dates indicate that new construction is either in the pipeline or underway. As a result, even though the university may still have aging housing stock, the average age will come down when new construction is taken into consideration.

## The Big Dogs: What the REITs look for in student housing opportunities

Although the average transaction size that a real estate investment trust is beyond the scope of the individual investor, its investment selection criteria can be emulated on a smaller scale to achieve success. Both Educational Realty Trust (EDR) and American Campus Communities (ACC) have openly referenced their respective acquisition strategies when making the commitment to invest in a particular area.

EDR owns housing communities that are located: in close proximity to university campuses (within two miles or less); in markets that have experienced or forecasted to experience growth in enrollment and target population; and in markets that have an insufficient supply of student housing (marketscreen.com, 2010).

EDR considers the following factors before committing to an acquisition (SEC Filing 10-K, December 31, 2009):

- Campus reputation
- Competitive admissions criteria
- Limited number of university-owned beds and limited expansion plans
- Distance of property from campus
- Property unit mix
- Competition
- Significant out-of-state enrollment
- Operating performance
- Potential for improved performance
- Ownership and capital structure
- Presence of desired amenities
- Maintenance of the property
- Access to university-sponsored or public transportation line
- Parking availability



GMH Communities, which was acquired by ACC on June 11, 2008, has similarly disclosed its investment criteria in previous SEC filings (SEC Filing 10-K, December 31, 2009). ACC considers the following factors before committing to an acquisition:

- The ability to increase rents and maximize cash flows
- The terms of existing and proposed leases
- Comparisons of proposed rents to market rents
- Creditworthiness of student residents and parent guarantors
- Local demographic and college and university enrollment trends
- Occupancy of and demand for similar properties
- Population and rental rate trends
- The ability to lease or sublease any unoccupied space
- The ability of the property to achieve long-term capital appreciation
- The ability of the property to produce cash flow for current distributions
- The age, location, and projected residual value of the property

Interestingly enough, there are a number of parallels between the investment criterion as outlined in this paper and the investment criterion used by the largest institutional investors in the student housing industry today. For example, ACC recognizes the fact that demographics and enrollment trends drive demand for student housing and outlined in SEC filings that “Local demographic and college and university enrollment trends” are factors considered before committing to an investment in a particular area. EDR, on the other hand, lists among its investment criterion “Limited number of university-owned beds and limited expansion plans” – implying that a favorable university-owned housing beds to total enrollment ratio is an important consideration among others when acquiring existing properties or developing new ones. ACC also considers the creditworthiness of student residents to be part of the investment equation – recognizing that collecting the rent is just as important as setting it.

## Financing

### The Private Investor

The use of debt financing can allow an investor to take control of an investment property by putting up only a fraction of the property's value – this is the use of leverage. The rewards can be great if the cash flows on an income generating property are enough to service the debt. However, the consequences can be great as well if the cash flows are insufficient to service the debt obligation. Leverage is therefore commonly referred to as a double edged sword. If an investment is levered properly, equity can be accrued over time to help invest in other opportunities.

Equity, on the other hand, is earnest money that needs to be put into a real estate deal so that the investor can obtain financing and close on a transaction. A conventional multifamily loan to value ratio is 75-80 percent financing and 20-25 percent equity (Zaransky, 2006). The 20-25 percent equity represents the percent of the purchase price that needs to be invested by the investor in addition to the 75-80 percent of the purchase price that is being borrowed from the bank. When student housing investment values reach into the hundreds of thousands if not millions of dollars, an investor must be resourceful in gathering the equity needed to close on an investment.

### Syndications

One potential source of equity is through a syndication of wealthy and passive investors. Syndication is a term used to describe an organization or group of investors who pool their capital for investment in real estate. Syndication can take the form of a limited liability company (LLC) and it is utilized primarily for large real estate transactions ([dre.ca.gov/pdf\\_docs/ref16.pdf](http://dre.ca.gov/pdf_docs/ref16.pdf), 2010).

The benefits of syndication are two-fold. First, if an opportunity presents itself, but the transaction size is too large for a single investor to manage, syndication can transform a missed opportunity into a profitable one by pooling the capital of other investors. Second, the investors that make up a syndicate can participate and diversify into real estate with no prior real estate experience necessary.

### HELOCs

HELOC stands for Home Equity Line of Credit and these loans are set up as a lines of credit to draw from rather than as fixed amounts. HELOCs are loans made against the difference between the

property's current value and the balance remaining on the mortgage. Home equity loans provide both benefits and drawbacks to the borrower and lender. The primary benefit to the borrower is that HELOCs create liquidity and equity in a timely fashion so that an investor can produce the equity necessary to close on an investment transaction (Zaransky, 2006). The primary drawbacks to the borrower are that a HELOC is an adjustable rate loan (subject to interest rate risk) and that the interest is calculated on a daily basis. This means that the interest rate on the loan will adjust much quicker to changes in prevailing rates. This also means that payments will rise with interest rates making it risky to hold onto the loan for an extended period of time. Bankers benefit from making home equity loans because of the low default rates and the knowledge that they will always receive a rate consistent with market conditions (Brown, August 27, 2009).

### Life Insurance Policies

Life insurance policies may serve as yet another potential source of equity. Life insurance policies result in an accrual of equity in a savings account. As a result, many life insurance policies allow the owner to borrow against the equity in the policy (investorguide.com, 2010). The upside is that the repayment of the loan is not required. The downside is that the amount borrowed will be directly offset by a reduction in the amount of the death benefit payout in the event that the loan is not repaid. If the only factor standing in the way of a real estate transaction is amassing enough equity, taking out a loan on a life insurance policy is potential source to tap into.

### The University

Very few schools exist with adequate resources to fund a new student housing development (schoolfacilities.com, March 29, 2002). Residence halls that are retreating into obsolescence may project a negative impression onto both students and parents – making it more difficult to attract new students. Facilities that are old are prone to falling into disrepair and may consume precious university funds in the forms of maintenance and repair work.

Universities may choose to finance student new housing projects using any number of financing methods. Such methods include: bonds, state budget provisions, partnership agreements, tax increment financing, and endowments.

## Bonds

A bond issuance is the method most commonly utilized by universities to fund student housing projects and it provides the greatest degree of control over the development process. Revenue bonds are issued for student housing projects in particular, because the bonds are backed by the revenue stream generated by such projects.

For example, the University of Arizona uses a variation on the revenue bond called Certificates of Participation (COPs). This instrument pledges a specified student housing project as collateral in the event of default. The University of Arizona pays a slightly higher interest rate on the COPs, but in exchange the institution as a whole is not put at risk because only the project that is being financed is pledged as collateral (Perry, David C., and Wiewel. 2005. 207-10. Print.).

## State Budget Allotments

All public universities in this study also use some state capital funds to finance their real estate acquisition and development (Perry, David C., and Wiewel. 2005. 207-10. Print.). As a result, how accessible these funds are to universities will inevitably determine the amount and degree of creative financing that must be pursued to pursue a project. For example, in Missouri state budget cuts to higher education (Ganey, February 2, 2010), have encouraged the University of Missouri to pursue more creative financing in order to pursue certain renovation and development projects. In fact they have issued more than \$300 million dollars in bonds to help finance more than a dozen student housing projects (Kumar, July 16, 2009).

## Partnerships Agreements

The private sector may be a more efficacious means of meeting the rising demand for student housing with much needed supply. Partnerships that are formed between universities and private developers/investors are becoming more commonplace. This is a result of tightening budgets and an effort by universities to obtain its objectives in light of the fact that proceeding with a project alone would not be finically feasible.

## Tax Increment Financing

Tax Increment Financing (TIF) allows the amount of property tax receipts that would otherwise go into government coffers, to be diverted to pay for the project's development expenses. More precisely, as an area is developed and property values increase, the growth beyond the current property tax level will be diverted to pay for the bonds that were issued to finance the project. Universities may partner with their respective cities to establish a TIF district help finance development costs. (Selby, Hunter)

## Endowments

Some universities, especially those with large endowments, use endowment funds to finance portions of their real estate investments. For example, during the 1960s the University of Pittsburgh's Board of Trustees decided to designate one-half of all unrestricted endowment funds for property acquisition (Perry, David C., and Wiewel. 2005. 207-10. Print.). Recently its endowment funds were used to finance the for profit portion of a multipurpose academic building otherwise funded by tax-exempt bonds.

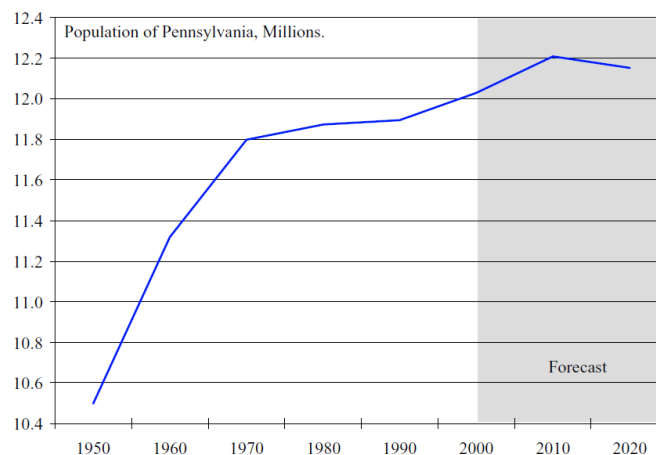
## IV. Case Study: Penn State Student Housing Market

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The objective of this case study is to analyze the Penn State student housing environment through the lens of a prospective real estate investor. Due to the fact that Penn State is a *state* university, a preponderance of enrolled students are residents of Pennsylvania who take advantage of the steep discount that “in-state” tuition offers over that of “out-of-state” tuition. In fact, roughly 66% of enrolled students at Penn State pay “in-state” tuition, meaning that they are residents of Pennsylvania. To gain a better grasp of whether Penn State is worth considering as a target market for student housing developments or acquisitions, it is imperative to first analyze the macro environment by looking at the demographic trends of the state, which will inevitably drive demand for the micro environment – the Penn State student housing market. Finally, we will simulate a student housing investment opportunity and model the investment decision for the real estate investor.

### Population Growth

Pennsylvania is one of the slowest growing states in terms of population growth. The state grew by about 3% over a full decade during the 1990’s – severely underperforming the nation’s population rate of growth of about 13%. In fact, the state of Pennsylvania was recently ranked among the top 10 slowest growing states in America (census.gov). Even more striking, however, is the aging demographic in Pennsylvania. Pennsylvania is ranked second, trailing only Florida, with the largest share of its population topping the age of 65.



Source: United States Census Bureau, RFA-Dismal Sciences, Inc.

Figure 10: Pennsylvania Population Growth

The value of a real estate investment takes into account projections of future cash flows, which are based on estimates of demand. Due to the fact that demand for student housing is driven by a younger demographic that is entering college, the important question to ask is whether or not these trends will continue. According to the U.S. Census Bureau, the answer is yes. The table in the figure below is a projection of Pennsylvania's population trends, separated by age group, and compared with the national trends. In Pennsylvania, growth in the 18-24 year demographic will remain flat to down. Meanwhile, there will be about a 7% projected increase in the number of individuals aged 65 or older.

Percent of total population Projections by major age group 2000-2030				
Pennsylvania	2000	2010	2020	2030
Under 18	23.8%	21.8%	21.7%	21.5%
18-64	60.6%	62.6%	59.5%	55.9%
65+	15.6%	15.5%	18.8%	22.6%
United States				
Under 18	25.7%	24.1%	23.9%	23.6%
18-64	61.9%	62.9%	59.8%	56.8%
65+	12.4%	13.0%	16.3%	19.7%

Figure 11: (issuespa.com) Percent of total population. Projections by major age group 2000-2030

## Investment Implications

Slow population growth coupled with an aging demographic is not a good recipe for increased demand for student housing in Pennsylvania. In fact, retirees are growing in number not only in Pennsylvania but across the United States and a shift in focus from student to senior accommodations might be an insightful move to make. Real estate investors looking for university-driven opportunities can capitalize on this trend by investing in housing accommodations that service an older demographic – like condominiums. For example, Susquehanna Real Estate Group is in the process of developing the “Fraser Centre” in downtown State College, PA. The “Fraser Centre” is a 7 story residential tower offering 53 condominiums starting under \$400,000 (frasercentre.com, 2010). In fact, universities themselves are creating incentives for retirees to become a part of the community through reduced or free tuition and other academic incentives for seniors (nabbw.com, 2007).

Other implications associated with an aging population in Pennsylvania are revenue related. The state's tax revenue will shrink for a couple reasons. First, the state's tax revenue will likely shrink as businesses like to position themselves in environments with a growing young worker base to draw from, as opposed to an environment characterized by individuals who no longer work and are retired – like what Pennsylvania will be in 20 years. Second, the state's tax revenue will shrink due to the fact that a large portion of retirement income is tax exempt ([issuespa.net](http://issuespa.net)). Lower revenue for the state will lead to budget cuts, which will have a negative impact on funding for higher education. Cuts in funding to higher education will force universities to prioritize their spending habits, which may incentivize a public-private partnership with investors to step in and provide student housing. Balancing the impact of a stronger dependence on the private market to supply housing alternatives with an aging demographic that will eat away at demand is the difficult part and the winner will remain to be seen.

## University Market Analysis

It is imperative for the real estate investor to compare and contrast other markets (campuses) within the state of Pennsylvania with Penn State's. "Peer" institutions were chosen based on two factors. First, we chose institutions that are sponsored by the Pennsylvania State System of Higher Education (PASSHE). PASSHE sponsors 14 universities and nearly 117,000 students, and it is the largest higher education provider in Pennsylvania ([passhe.edu](http://passhe.edu)). PASSHE was chosen because of its reliance on state funding and the fact that 90 percent or more of the students that enroll at these institutions are residents of Pennsylvania. Therefore, demand for student housing at these institutions will be more predictable based on the demographic research we have completed previously. Second, we will compare and contrast the top five universities, ranked by total enrollment, in Pennsylvania. Penn State is ranked number one with the largest total enrollment.

We have compared and contrasted retention, tuition, and default rates as well as constructed university owned beds to total enrollment ratios in an effort to determine how attractive the student housing market is at Penn State relative to its peers in Pennsylvania.

## Comparison of Selective Admissions and Retention Rates

An attractive characteristic, attributable to investing in student housing, is the steady stream of cash flows that an investor can expect. Cash flows are more predictable from student housing due to the fact that there is a widely accepted, fairly predictable, amount of time that students will live in a



certain area to finish their schooling. Universities with more selective admissions and higher retention rates help ensure that housing demand remains steady and consistent (NCES and RREEF Research).

Top 5 Universities by population	Total Enrollment	Accepted /Applicants	Enrolled /Applicants	*Retention Rate
<b>Pennsylvania State University</b>	44,406	51%	36%	85%
Temple University	35,490	61%	37%	62%
University of Pittsburgh	27,562	55%	30%	76%
University of Pennsylvania	24,107	18%	61%	95%
Drexel University	21,537	55%	11%	62%
<b>Average:</b>	<b>30,620</b>	<b>48%</b>	<b>35%</b>	<b>76%</b>
<b>PASSHE Schools</b>				
Bloomsburg University	8,855	59%	29%	65%
California University	8,519	63%	46%	48%
Clarion University	7,100	68%	44%	52%
East Stroudsburg	7,234	71%	29%	54%
Edinboro University	7,671	73%	44%	44%
Indiana University	14,310	64%	44%	50%
Kutztown University	10,393	66%	100%	53%
Lock Haven University	5,266	73%	37%	54%
Mansfield University	3,422	73%	39%	48%
Millersville University	8,320	53%	35%	62%
Shippensburg University	7,942	71%	36%	64%
Slippery Rock University	8,458	59%	45%	59%
West Chester University	13,619	49%	34%	63%
<b>PASSHE AVERAGE:</b>	<b>8,547</b>	<b>65%</b>	<b>43%</b>	<b>55%</b>
*Percentage of Full-time, First-Time Students Who Graduated or Transferred Out Within 150% of "Normal Time" to Completion for Their Program				

Figure 12: source: <http://nces.ed.gov>

With total enrollment of 44,406 students, Penn State is the largest university, among both public and private institutions, in the state of Pennsylvania. However, with an accepted/applicants ratio of 51% it accepts fewer applicants than the other largest public universities and PASSHE institutions. Moreover, only 36% of accepted applicants enroll at Penn State – a figure that is on par with the average for the top five universities ranked by population and well below the average for PASSHE institutions. These figures suggest that Penn State has a slightly more selective admissions process compared with that of its peers. Penn State also has the highest retention rate (85%) of students among the largest public universities and among all PASSHE institutions. These two conclusions, together, suggest that the Penn State student housing market will be more stable relative to peer campuses.

## Comparison of Tuition and Default Rates

Compared to peer institutions, Penn State has the highest tuition and fees attributable to a public university and is nearly twice as expensive as the average PASSHE institution. In a bad economy, cheaper alternatives may be more attractive to students on tighter budgets. However, the “In-State” tuition and fees for Penn State are more than half of those attributable to the large private universities. Room and board rates for Penn State are the lowest among the “Top 5” universities ranked by total

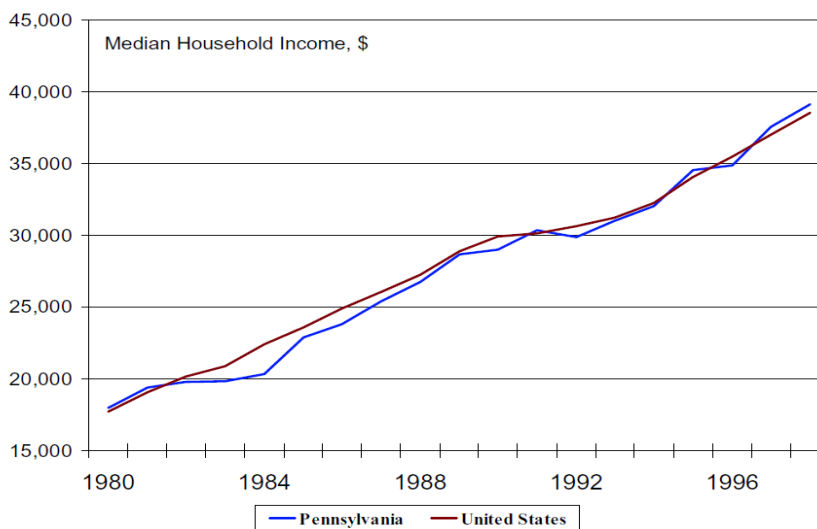
enrollment. In fact, Penn State's room and board rates are only 20 percent more than the average PASSHE institution.

Top Universities by population	Tuition and Fees		Room and Board	*RATE OF CHANGE			**Default %
	Out-of-State	In-State		Out-of-State	In-State	Room and Board	
<b>Pennsylvania State University</b>	25,946	14,416	8,820	4.00%	5.20%	6.80%	2.50%
Temple University	21,634	11,764	9,198	5.70%	2.80%	3.50%	2.53%
University of Pittsburgh	23,852	14,154	8,900	2.40%	3.80%	3.50%	1.76%
University of Pennsylvania	38,970	38,970	11,016	3.80%	3.80%	3.70%	0.53%
Drexel University	31,835	31,835	12,681	4.60%	4.60%	4.50%	1.30%
<b>Average:</b>	28,447	22,228	10,123	4.10%	4.04%	4.40%	1.72%
<b>PASSHE Schools</b>							
Bloomsburg University	15,546	7,110	6,488	3.80%	3.80%	3.10%	2.50%
California University	11,010	7,676	9,182	4.50%	4.90%	4.90%	3.86%
Clarion University	13,038	7,380	6,600	3.90%	4.70%	0.80%	4.30%
East Stroudsburg	15,830	7,394	6,418	4.00%	4.30%	4.40%	2.46%
Edinboro University	10,198	7,316	7,130	3.90%	3.90%	10.50%	4.20%
Indiana University	15,645	7,209	8,558	3.70%	3.60%	48.00%	4.06%
Kutztown University	15,833	7,397	7,698	3.80%	3.80%	5.00%	3.13%
Lock Haven University	13,637	7,201	6,416	4.50%	4.10%	4.20%	2.73%
Mansfield University	16,192	7,756	6,396	5.50%	5.40%	0.00%	3.80%
Millersville University	15,563	7,147	7,766	3.80%	4.40%	6.30%	2.36%
Shippensburg University	15,880	7,444	6,698	4.30%	4.90%	7.10%	2.10%
Slippery Rock University	10,116	7,235	8,554	4.20%	4.30%	3.20%	3.20%
West Chester University	15,543	7,221	7,860	4.50%	7.00%	14.30%	2.36%
<b>PASSHE Average:</b>	<b>14,156</b>	<b>7,345</b>	<b>7,366</b>	<b>4.18%</b>	<b>4.55%</b>	<b>8.60%</b>	<b>3.16%</b>
*Rate Of Change: the average percent change from 2008-2010 in tuition and room and board							
**Default %: the average default rate for 2005-2007							

Figure 13: source: <http://nces.ed.gov>

## Income

Household income serves as a barometer of the health of the economy as it drives demand for goods and services. “Median” household income represents a specific level of income where 50% of households are above or below this level. The figure below illustrates how well the median household income of Pennsylvanians had tracked the national average throughout the 1980's and 90's.



Source: United States Bureau of Economic Analysis, United States Census Bureau, RFA-Dismal Sciences, Inc.

Figure 14: Pennsylvania Median Household Income Growth

However, a bad economy can cause unemployment and reduce household incomes, tighten budgets, and may even lead to default on debt obligations like student loans. Due to the fact that Penn State is so costly to attend, trends in the median income of Pennsylvania households are important for an investor to consider (collegeboard.com).

## Default Rate

Most college students have little if any credit history at all. Although gaining the co-operation of student's parents to co-sign or guarantee leases is essential to reducing the risk of delinquent tenants, investing in a market with the lowest delinquency rates may also help to mitigate default risk. Figure 4 above arrives at an average of the default rates on student loans in an effort to illustrate higher vs. lower potential delinquency rates in rental payments. In contrast to the better quality of the enrollment pool as estimated by retention rates and a selective admissions process, Penn State has a student loan default rate that averages 2.5%. This figure is greater than the average for the top five largest universities, but still lower than PASSHE institutions.

## Comparison of the University-Owned Housing Beds to Total Enrollment Ratio

Top 5 Universities by population	Total Enrollment	Accepted /Applicants	Enrolled /Applicants	*Retention Rate	**University Policy
<b>Pennsylvania State University</b>	44,406	51%	36%	85%	
Temple University	35,490	61%	37%	62%	★
University of Pittsburgh	27,562	55%	30%	76%	★
University of Pennsylvania	24,107	18%	61%	95%	
Drexel University	21,537	55%	11%	62%	★
<b>Average:</b>	<b>30,620</b>	<b>48%</b>	<b>35%</b>	<b>76%</b>	
<b>PASSHE Schools</b>					
Bloomsburg University	8,855	59%	29%	65%	
California University	8,519	63%	46%	48%	★
Clarion University	7,100	68%	44%	52%	★
East Stroudsburg	7,234	71%	29%	54%	
Edinboro University	7,671	73%	44%	44%	
Indiana University	14,310	64%	44%	50%	
Kutztown University	10,393	66%	100%	53%	★
Lock Haven University	5,266	73%	37%	54%	
Mansfield University	3,422	73%	39%	48%	
Millersville University	8,320	53%	35%	62%	★
Shippensburg University	7,942	71%	36%	64%	★
Slippery Rock University	8,458	59%	45%	59%	
West Chester University	13,619	49%	34%	63%	★
<b>PASSHE AVERAGE:</b>	<b>8,547</b>	<b>65%</b>	<b>43%</b>	<b>55%</b>	
*Percentage of Full-time, First-Time Students Who Graduated or Transferred Out Within 150% of "Normal Time" to Completion for Their Program					
**First-time Room / Board Required (Those with stars <u>DO NOT</u> require first-year room and board)					

Figure 15: source: <http://nces.ed.gov>

The university-owned housing beds to total enrollment ratio is a metric that helps to determine whether or not a particular climate is favorable for investing in student housing. Quite simply, the

metric is a ratio that illustrates the ratio of university-owned beds to the total number of students enrolled at that particular university. The logic follows that: the lower the ratio, the greater the shortage of university-supplied housing, the more demand there is for off-campus solutions, the more attractive the market is for investing in student housing.

Upon comparing Penn State's university-owned beds to total enrollment ratio to that of its peers, it becomes clear that Penn State has the highest ratio among the top five largest universities in Pennsylvania – the higher the ratio, the smaller the gap between supply and demand that needs to be filled. However, Penn State's ratio of 30% is on par with the average among PASSHE institutions. The lowest ratio among the largest universities and PASSHE institutions alike is Drexel University, with a ratio of only 18%.

## University Policy

Universities have different policies regarding requirements/restrictions for where enrolled students are permitted to live. Most universities, however, require students to live in a university-owned/approved housing alternative at least during freshman year. Given that most students want to move out of their dorm rooms as soon as they can, universities that allow sophomores and upperclassmen to live outside the dorms create a better real estate investment climate for student housing than those campuses that limit off-campus living to upperclassmen and married students (Zaransky, 2006). Stars are placed under the column "University Policy" in Figure 6 above. Universities that *do not require* first year students to live in on campus are denoted by stars. The implication of requiring first year students to choose a university-owned option is that the policy reduces the demand for off-campus student housing alternatives. Penn State is a campus that requires incoming freshman to live on campus their first year, whereas the other largest public universities do not. This policy should be taken into account by the astute real estate investor.

## Modeling the Investment Decision

This case study reviews the concepts and calculations necessary to perform a cash flow analysis on an investment property. We pose as wealthy and successful real estate investors looking to acquire a student housing investment that will service the tens of thousands of students that attend Penn State University each and every year.

### Case Setup

As wealthy real estate investors, discouraged by the lack of opportunities in the commercial real estate market today, we are looking to acquire a student housing project that will capitalize on the large student population of Penn State University. After much searching, we have found a 150-unit student housing complex, comprised of single bedroom apartments, that is located in the heart of downtown State College, PA. The property is available to purchase today for a tidy sum of \$9,457,200 and any repairs and maintenance that are anticipated over the next seven years are reflected in the annual operating expenses.

Working with our mortgage broker we discovered that we qualify for a loan from Freddie Mac's "Student Housing Mortgage" program, with \$5,000,000 being the minimum loan amount. It just so happens that we need to borrow \$7,092,900 according to an agreed upon Loan-To-Value (LTV) ratio of 75 percent. As real estate investors who have amassed a great deal of wealth by conducting a number of similar transactions in the past, we are easily able to put up the \$2,364,300 in equity necessary to close the deal. The loan has a 25-year amortization and term, a five percent annual interest rate, and monthly payments. We make the acquisition on the first day of the year and plan to hold the property for five years. Disposition will occur on the last day of the year. We forecast a Potential Rental Income (PRI) of \$1,278,000.

We have forecasted a 7.5 percent vacancy and credit loss in each year of the analysis. We forecast operating expenses to be 40 percent of the gross operating income and we project the Net Operating Income (NOI) will increase at the historical rate of inflation of three percent per year (inflationdata.com). The accountant has agreed that the improvement/land ratio is 70 percent to the building and 30 percent to the land. Cost recovery would be based on 27.5 years using the straight-line method. According to the mid-month convention, cost recovery can and should be taken in the years of

acquisition and disposition. Use 3.485 percent of the improvement value as the cost-recovery deduction for the year of acquisition and the year of disposition. Use 3.636 percent of the improvement value as the cost-recovery deduction for all other years of the projection.

We are in the 28 percent marginal tax bracket and would pay 15 percent on long-term capital gains and 25 percent on cost-recovery recapture at the sale of the property. The market cap rate for this property could be 10 percent, which will be applied to the net operating income forecasted for year eight in order to calculate the sales price at the end of year five. Costs of the disposition are predicted to be five percent.

### Determination of Case Assumptions

An analysis of the State College Metropolitan Statistical Area (MSA) reveals that the average 1-bedroom apartment in 2010 rents for \$710 a month. Therefore we forecasted a Potential Rental Income (PRI) of \$1,278,000 and grew it at an annual rate equal to that of the historical rate of inflation. This PRI is arrived at by:

$$(\text{rental income/month}) \times (\text{number of months in the lease}) \times (\text{number of units}) = \text{PRI}$$

$$(\$710/\text{month in rental income}) \times (12\text{-month lease}) \times (150\text{-units}) = \$1,278,000$$

Due to the fact that student housing properties often operate with little to no vacancy, we estimate the vacancy and credit loss figure by accounting for a conservative 5 percent vacancy rate and also a 2.5 percent credit loss rate (based on the 2.5 percent default rate on student loans by Penn State students calculated in the tables previously).

The \$9,457,000 purchase price was arrived at by dividing the projected first year net operating income by the average cap rate that student housing properties are selling at in today's market (7.5%)(The Jackman Prince Group, 2009).

The improvements on the property were determined to be depreciable over a period of 27.5 years because this investment is considered a residential property. If the property were commercial, the depreciable life of the investment would be 39 years.

## Base Case Results

After making the assumptions above in consideration of variables specific to the State College MSA and national student housing market, we modeled the investment decision and were able to determine the following set of base results for the investor:

- After Tax Cash Flow in year one ATCF(1) of \$176,085
- After Tax Cash Flow in year seven ATCF(7) of \$260,893
- Before Tax Internal Rate of Return (BTIRR) of 11.48%
- After Tax Internal Rate of Return (ATIRR) of 8.63%
- Sale Proceeds After Tax (SPAT) of \$2,265,280

**\*Model results can be found in the Appendix.**

## Sensitivity Analysis

A sensitivity analysis is performed in order to determine the vulnerability of the investment's performance to changes in predicted variables. To illustrate the importance of doing a sensitivity analysis on an investment, we have conducted several analyses below on the following variables:

1. Change in mortgage rates (Financing Assumption)
2. Change in rental growth rates (Property Assumption)
3. Change in the disposition capitalization rate (Investor/Owner Assumption)

## Mortgage Rate Sensitivity

Sensitivity Analysis to Mortgage Rates				
Inputs (Mort. Rates)	Outputs			
%	ATCF(1)	ATCF(7)	BTIRR	ATIRR
4	\$204,601.00	\$290,919.00	13.99%	10.46%
<b>5</b>	<b>176,085</b>	<b>\$260,893</b>	<b>11.48</b>	<b>8.63</b>
6	145,090	228,917	8.83	6.68
7	111,772	195,070	6.04	4.6
8	76,299	159,449	3.1	2.41
9	38,849	122,161	0.01	0.1
10	-397	83,326	-3.23	-2.32

The base result of the case study implements a mortgage rate of 5% and is highlighted in bold. The After Tax Internal Rate of Return (ATIRR) is the rate of return that is earned on every dollar invested that remains in the investment after taxes. If the investor's required rate of return is greater than the ATIRR of 8.63% then this investment is not suitable as it fails to meet or exceed the hurdle rate.

As the mortgage rate increases, the debt that must be serviced by the investor increases as well. This proves to be troubling for the investment due to the fact that annual debt service is subtracted from Net Operating Income (NOI) to arrive at the After Tax Cash Flow (ATCF). More debt service means less cash after taxes.

### Rent Growth Rate Sensitivity

Sensitivity Analysis to Rent Growth Rates						
Inputs (Rent Growth Rates)	Outputs					
%	ATCF(1)	ATCF(7)	Projected NOI(8)	Sale Price	BTIRR	ATIRR
0	\$176,085.00	\$161,793.00	\$709,290.00	\$7,093,000.00	-0.35%	-2.77%
1	176,085	193,210	760,455	7,605,000	4.32	1.99
2	176,085	226,223	814,751	8,148,000	8.16	5.16
3	<b>176,085</b>	<b>260,893</b>	<b>872,337</b>	<b>8,723,000</b>	<b>11.48</b>	<b>8.63</b>
4	176,085	297,288	933,377	9,334,000	14.45	11.11
5	176,085	335,476	998,042	9,980,000	17.16	13.42
6	176,085	375,526	1,066,510	10,665,000	19.66	15.78
7	176,085	417,510	1,138,965	11,390,000	22.01	18
8	176,085	461,503	1,215,598	12,156,000	24.22	20.1
9	176,085	507,580	1,296,610	12,966,000	26.33	22.1
10	176,085	555,820	1,382,206	13,822,000	28.35	24.02

The base result of the case study implements a 3% annual escalation of the rent growth rate and is highlighted in bold. A sensitivity analysis was performed in an effort to understand how changes in the rent growth rate can impact various aspects of the investment. If the investors required rate of return is greater than 8.63% then this investment is not suitable as rent growth rates of 3% or less are not significant enough to produce an ATIRR that is greater than 8.63%.

However, as rent growth rates continue to rise over time so will the projected Net Operating Income for year 8 NOI(8), which will positively affect both the sale price at disposition and ATIRR. The sale price at disposition will rise with rents because it is calculated by dividing the projected NOI(8) by the cap rate which remains constant.



## Capitalization Rate Sensitivity

Sensitivity Analysis to Capitalization Rates				
Inputs (Capitalization Rates)	Outputs			
%	Projected NOI(8)	Sale Price	BTIRR	ATIRR
4	\$872,337	\$21,808,000	35.79%	32.04%
5	872,337	17,447,000	30.51	26.84
6	872,337	14,539,000	26.03	22.43
7	872,337	12,462,000	22.04	18.5
8	872,337	10,904,000	18.38	14.39
9	872,337	9,693,000	14.89	11.54
<b>10</b>	<b>872,337</b>	<b>8,723,000</b>	<b>11.48</b>	<b>8.63</b>
11	872,337	7,930,000	8.05	5.42
12	872,337	7,269,000	4.46	1.39
13	872,337	6,710,000	0.55	-3.18
14	872,337	6,231,000	-3.99	-8.89

The base result of the case implements a 10% capitalization rate at disposition. This capitalization rate produces a sale price of \$8,724,000 with an ATIRR of 8.63%. If the investor's required rate of return is greater than 8.63% than this project is not suitable as it will not clear the hurdle rate. Therefore, if an investor expects the cap rate at disposition to be 10% or greater, then the investment is not suitable.

However, as the disposition cap rate falls the sale price of the property will rise and so will the After Tax Internal Rate of Return (ATIRR) on the investment. This is due to the fact that the sale price is determined by dividing the projected Net Operating Income in year 8 NOI(8), which is held constant, by the disposition cap rate.

## V. Conclusion

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After review of the available literature, macro analysis of student housing market, micro analysis of the student housing market as it relates to Penn State, and analysis of the investment decision from a real estate investor's perspective, there are a number of conclusions to make about the economic prospects for investing in student housing.

After review of the available literature, there are a number of positive attributes associated with investing in this real estate. First, the 80 million strong echo boomer population just entering their college years is a powerful underlying demographic trend that is driving demand for student housing today, and is predicted to continue doing so in the future. Second, shrinking state budgets and university endowments are contributing to the widening gap between the supply of and demand for student housing – providing real estate investors with an opportunity to service the demand. Third, student housing's counter-cyclical nature contributes to the investments steady stream of cash flows – making it an attractive investment vehicle to weather volatile economic times and remain exposed to real estate.

The student housing niche poses a number of risks to be mindful of as well. First, while there are opportunities to be found in the student housing market today, it is certain that inefficiencies will be capitalized on and eventually supply will overtake demand. Second, once committed to a real estate investment, it is difficult to liquidate one's position in the event that the asset underperforms expectations. The lack of liquidity inherent in the real estate market highlights the importance of performing an appropriate amount of due diligence. Third, operating expenses will likely exceed those associated with other real estate investments due to student housing's management intensive nature.

An evaluation of the student housing market, from a macro perspective, revealed a number of themes that make a strong case for investing in this real estate niche. First, population trends are impacting college enrollment growth positively as millions of echo boomers are beginning to reach college age each year. Second, although the entry of big institutions into the student housing arena presents private investors with more competition, it also underscores the value that "smart money" sees in this particular market. Third, there are a number of financing methods available to many types of investors who need to raise the necessary equity to close a student housing deal. For example, students can buy their own place, with the assistance of a blood relative, via an FHA mortgage plan that only requires 3% down. Small private investors can raise equity for a student housing investment by

taking out a home equity line of credit on a property they already own. Wealthy individuals can form a syndication to pool their funds and make even larger transactions.

After conducting a case study, we were able to obtain a better economic understanding of the Penn State student housing market. First, we learned that although the national trends in target population growth (18-24 year olds) and college enrollment suggest that demand for student housing will grow, the Pennsylvania market that Penn State services is not as promising. Pennsylvania has a constricted age pyramid, which means that the state has a low percentage of younger people and the U.S. Census Bureau projects that the pyramid will become “top heavy” in the future as the state’s population ages (censusscope.com). This trend is not conducive to stimulating demand for student housing at Penn State, as a majority of the students that enroll at the university are residents of Pennsylvania. When we compared and contrasted Penn State with other universities in Pennsylvania in an effort to determine the prospects for investing in student housing, the results we found were mixed. Penn State has the highest enrollment of any other institution in Pennsylvania. This provides a large pool of potential renters to draw from. However, the tuition rate at Penn State is also the highest of any other large public university in Pennsylvania. This places a strain on the wallets of potential applicants, especially during tough economic times. Penn State also has the highest retention rate of students among any other large public universities or PAASHE institutions. This means that a majority of the students that enroll will stay to complete their degree – the implications of which are good for the steadiness of demand and cash flows.

The thesis concluded with a simulated student housing investment that incorporated variables specific to the current state of the student housing market and the State College MSA. By modeling the investment decision for a real estate investor, we determined how variables that are specific to the student housing market, to the investor, to the investment, and to current economic conditions interact with one another to help the investor finally determine if an investment is worth committing to. Finally, a sensitivity analysis was performed in an effort to understand how changes in forecasted variables affect the investment’s profitability. The results of the sensitivity analysis were compared to the base results of the case study to illustrate whether the investment would be worth committing to if these variables were to end up different than expected.

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## VII. Appendix A

\*source: all property, financing, and investor/owner assumptions were modeled with the assistance of CCIM macro-enabled spreadsheets. (ccim.com)\*

### Property Assumptions

1	Name	AJC Properties
2	Location	State College, Pennsylvania
3	Type of Property	Student Housing
4	Purpose of Analysis	
5	Prepared By	Adam J. Crell
6	Size (Square feet or Number of Units)	150
7	Assessed/Appraised Value of Land	Percent of Acquisition Basis
8	Assessed/Appraised Value of Improvements	Percent of Acquisition Basis
9	Assessed/Appraised Value of Personal Property	Residential
10	Useful Life of Improvements (Years)	27.5
11	Useful Life of Personal Property (Years)	
12	Acquisition Price	59,457,200
13	Acquisition Costs	

Instructions :

14	Potential Rental Income and Escalations		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
15	Potential Rental Income	Yr total amount and annual % changes	\$1,278,000	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
16	Other Income (Collectable)								

17	Annual Vacancy Rates (Percent of Potential Rental Income)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
		7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%

18	Operating Expenses and Escalations	% of Gross Operating Income	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
19	Total Operating Expenses		40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%

### Financing Assumptions

20	Loan Amount	Loan to Purchase Price Ratio	1st Mortgage	2nd Mortgage
21	Interest Rate		75.00%	
22	Amortization Period (Years)		25	
23	Loan Term (Years)		25	
24	Payments Per Year	Twelve	12	12
25	Loan Costs			

### Investor/Owner Assumptions

26	Ordinary Income Marginal Tax Rate	28.00%
27	Capital Gains Tax Rate	15.00%
28	Cost Recovery Recapture Tax Rate	25.00%
29	Anticipated Holding Period (1 - 10 Years)	7
30	Disposition Price	Cap Rate
31	Disposition Cost of Sale	Percent of Disposition Price

MORTGAGE DATA		COST RECOVERY DATA				BASIS DATA	
	1st Mortgage	2nd Mortgage		Improvements	Personal Property	Acquisition Price	
Amount	\$7,092,900		Value	\$6,620,040			\$9,457,200
Interest Rate	5.00%		C. R. Method	SL		SL Acquisition Costs	
Amortization Period	25		Useful Life	27.5		Total Acquisition Basis	\$9,457,200
Loan Term	25		In Service Date	1-Jan			
Payments/Year	12		Date of Sale	31-Dec			
Periodic Payment	\$41,464.39		12 Months % age	3.638%			
Annual Debt Service	\$497,573		11.5 Months % age	3.485%			
Loan Fees/Costs							

TAXABLE INCOME							
End of Year	1	2	3	4	5	6	7
1 POTENTIAL RENTAL INCOME	\$1,278,000	\$1,316,340	\$1,356,830	\$1,396,505	\$1,438,400	\$1,481,652	\$1,525,999
2 -Vacancy & Credit Losses	\$95,850	\$98,726	\$101,687	\$104,738	\$107,880	\$111,116	\$114,450
3 EFFECTIVE RENTAL INCOME	\$1,182,150	\$1,217,615	\$1,254,143	\$1,291,767	\$1,330,520	\$1,370,436	\$1,411,549
4 +Other Income (collectable)							
5 GROSS OPERATING INCOME	\$1,182,150	\$1,217,615	\$1,254,143	\$1,291,767	\$1,330,520	\$1,370,436	\$1,411,549
6 TOTAL OPERATING EXPENSES	\$472,860	\$487,046	\$501,657	\$516,707	\$532,208	\$548,174	\$564,620
7 NET OPERATING INCOME	\$709,290	\$730,569	\$752,486	\$775,060	\$798,312	\$822,262	\$846,929
8 -Interest-First Mortgage	\$351,324	\$343,841	\$335,976	\$327,709	\$319,018	\$309,883	\$300,280
9 -Interest-Second Mortgage							
10 -Cost Recovery-Improvements	\$230,708	\$240,705	\$240,705	\$240,705	\$240,705	\$240,705	\$230,708
11 -Cost Recovery-Personal Property							
12 -Loan Costs Amortization							
13 -							
14 -							
15 REAL ESTATE TAXABLE INCOME	\$127,258	\$146,022	\$175,805	\$206,647	\$238,589	\$271,674	\$315,941
16 Tax Liability (Savings) at 28%	\$35,632	\$40,886	\$49,225	\$57,861	\$66,805	\$76,059	\$86,464

CASH FLOW							
17 NET OPERATING INCOME (Line 7)	\$709,290	\$730,569	\$752,486	\$775,060	\$798,312	\$822,262	\$846,929
18 -Annual Debt Service	\$497,573	\$497,573	\$497,573	\$497,573	\$497,573	\$497,573	\$497,573
19 -							
20 -							
21 -							
22 CASH FLOW BEFORE TAXES	\$211,717	\$232,996	\$254,913	\$277,488	\$300,739	\$324,689	\$349,357
23 -Tax Liability/ (Savings) (Line 16 )	\$35,632	\$40,886	\$49,225	\$57,861	\$66,805	\$76,059	\$86,464
24 CASH FLOW AFTER TAXES	\$176,085	\$192,110	\$205,688	\$219,627	\$233,934	\$248,620	\$260,893

## MORTGAGE BALANCES

1	End of Year:	1	2	3	4	5	6	7
2	Principal Balance - 1st Mortgage	\$6,946,652	\$6,792,920	\$6,631,324	\$6,461,459	\$6,282,905	\$6,095,215	\$5,897,922
3	Principal Balance - 2nd Mortgage							
4	TOTAL UNPAID BALANCE	\$6,946,652	\$6,792,920	\$6,631,324	\$6,461,459	\$6,282,905	\$6,095,215	\$5,897,922

## CALCULATION OF SALE PROCEEDS

5	END OF YEAR	1	2	3	4	5	6	7
6	PROJECTED SALES PRICE (Rounded to nearest 000)							\$8,723,000

## CALCULATION OF ADJUSTED BASIS

7	Basis at Acquisition							\$9,457,200
8	+Capital Additions							
9	-Cost Recovery (Depreciation) Taken							\$1,664,941
10	-Basis in Partial Sales							
11	=Adjusted Basis at Sale							\$7,792,259

## CALCULATION OF CAPITAL GAIN ON SALE

12	Sale Price							\$8,723,000
13	-Costs of Sale							\$436,150
14	-Adjusted Basis at Sale (Line 11)							\$7,792,259
15	-							
16	=Gain or (Loss)							\$494,591
17	-Straight Line Cost Recovery (limited to gain) (Line 9)							\$494,591
18	-Suspended Losses							
19	=Capital Gain from Appreciation							

## ITEMS TAXED AS ORDINARY INCOME

20	Unamortized Loan Fees/Costs (negative)							
21	+							
22	=Ordinary Taxable Income							

## CALCULATION OF SALE PROCEEDS

23	Sale Price							\$8,723,000
24	Cost of Sale							\$436,150
25	-Participation Payments on Sale							
26	-Mortgage Balances(s)							\$5,897,922
27	+Balance of Funded Reserves							
28	=SALE PROCEEDS BEFORE TAX							\$2,388,928
29	-Tax (Savings) on Ordinary Income (Line 22 x 28%)							
30	-Tax on Cost Recovery Recapture (Line 17 x 25%)							\$123,648
31	-Tax on Capital Gain (Line 19 x 15%)							
32	=SALE PROCEEDS AFTER TAX							\$2,265,280

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**Education:**

**Pennsylvania State University  
Schreyer Honors College**

**University Park, PA  
Class of 2010**

- Sapphire inductee at the Smeal College of Business
- Major in Finance. Minor in International Business. Minor in Economics.

**Wharton School of Business Summer Leadership Program**

**Philadelphia, PA**

- At age 16 I was the youngest ever to be accepted into the Leadership in the Business World Program. Only 60 students were chosen from more than 300 international applicants.
- Presented original business plan to a panel of venture capitalists.

**Professional Experience:**

**CCIM (Certified Commercial Investment Member)**

*Candidate*

**2009-Present**

- Completed all four levels of examination necessary to pursue the designation.
- Acquired practical knowledge and relevant experience with regard to the disciplines of commercial and investment real estate.

**Pennsylvania Real Estate License**

**Philadelphia, PA  
Summer 2007**

*Licensee*

- Acquired license to sell Real Estate in Pennsylvania.

**CMT (Chartered Market Technician)**

**Philadelphia, PA  
2003-Present**

*Candidate*

- Youngest candidate in Market Technician Association's thirty-year history to have completed all three levels of examination and pursue the designation.

**GFT Forex Trading Competition**

**University Park, PA  
Fall 2006**

*Assistant*

- Assisted first place finish in the undergraduate division of the Texas A&M Inter-University Forex Trading Competition, beating out more than 100 students and 15 different North American universities.

**Community Activities:**

**GeneroCity™**

**Philadelphia, PA  
2003 - Present**

*Founder*

- Founded a volunteer non-profit organization which helps needy families and children across America.
- Instituted awareness programs in local schools, which explained the value of pro social actions and commitments.

**Interests and Extracurricular Work:**

- Ranked Middle States Tennis player & 1<sup>st</sup> Degree Black Belt in Kenpo Karate.