Market Updates

Singapore Residential Price index (SRPI)

The NUS SRPI flash overall value weighted index and two sub-indices are staying in the falling trend in December, except for the small units sub-index that rose slightly from November. The overall NUS SRPI was down by 1.2 percent from the previous month and the sub-indices for central and non-central region were down by 1.7 percent and 0.8 percent respectively. Read more…

NUS-REDAS Real Estate Sentiment Index (RESI)

The 4Q14 NUS-REDAS Real Estate Sentiment Index (RESI) Survey shows that the Composite Sentiment Index, a derived indicator for the overall real estate market sentiment in Singapore, went down to 3.4 from 3.7 in 3Q14. The Current Sentiment Index declined to 3.6 from 3.7 in 3Q14; and the Future Sentiment Index declined to 3.2 from 3.6 in 3Q14. Read more…

NUS/Wharton/Tsinghua Chinese Residential Land Price Indexes (CRLPI)

The NUS/Wharton/Tsinghua Chinese Residential Land Price Indexes (CRLPI) reports series on real constant quality land prices across 35 major markets in China. See our white paper for more information on the underlying data and technical issues in the creation of the index. The NUS/Wharton/Tsinghua Chinese Residential Land Price Index appreciated by nearly 11% during the fourth quarter of 2014, more than recovering from the 6.8% drop in the previous quarter. Read more…

Research Highlights / Articles

Property Price Upsurge in Singapore’s Mass Market – How the Role of Foreign Capital Affects You

The inflow of foreign money into the central region of Singapore’s private property market does not only spark an uptick of prices in this core region, but also brings about a ‘ripple effect’ that affects prices in the non-central regions. This ‘ripple effect’ could account for as much as 25% of the fluctuations in house price growth in these regions. Read more…

Selectivity, Spatial Autocorrelation, and the Valuation of Transit Accessibility

Urban rail transit has been widely considered an efficient and environment-friendly mode of transport to address deteriorating urban transportation conditions. However, in recent years, the increasing development, operation and maintenance costs of urban rail transit have imposed significant challenges on governments and transit agencies worldwide. Read more…
Events

AREUEA-ASSA Annual Conference

Prof Deng’s AREUEA presidential speech, titled “Disparities in the Geographic Focus of Real Estate and Urban Economics Publications,” reveals that even as more authors from leading Asian universities/research institutions continue to contribute to the top-tier journal publications in the fields of real estate finance and urban economics over the years, authors affiliated with Singaporean universities contribute about 40% of this growing trend. Read more…

Listen to his speech…

5th Annual Conference of Real Estate Industry in China

The Annual Conference was attended by some of the major players in China’s property market, for example, Vanke, Greenland and Sino-Ocean Land. The conference was held from 14th – 16th January 2015 and provided a platform for industry players to review the current status of China’s real estate market, discuss the challenges faced in moving on to the “silver times” of China’s property market. Read more…

What’s Coming Up?

NUS-IRES Public Lecture

"What is behind the disappointing growth worldwide after the Financial Crisis?"
By Professor Kiyohiko G. Nishimura
Read more…

Faculty / Student News

Faculty Achievements Read more…

Student Achievements Read more…
The NUS Real Estate News is a quarterly publication of the Department of Real Estate and the Institute of Real Estate Studies. It documents data releases and analyses through market updates of the Singapore Residential Price Index (SRPI), the NUS-REDAS Real Estate Sentiment Index (RESI) and the NUS/Wharton/Tsinghua Chinese Residential Land Price Indexes (CRLPI). It also provides highlights on market relevant research and disseminates information on industry activities which the NUS Real Estate either organizes or participates in.

The production of the NUS Real Estate News is coordinated by the Institute of Real Estate Studies under the general direction of Professor Deng Yongheng (Provost’s Chair Professor, Director of Institute of Real Estate Studies and Head of Department of Real Estate).

Get Connected!

To be placed on our distribution list and to stay connected to NUS Real Estate, drop us an email stating your name, company and contact information to: ires@nus.edu.sg. Subscription to the NUS Real Estate News is free of charge.

You may also wish to forward this email to interested friends and colleagues.

Your feedback and comments are most welcome.

The NUS Real Estate News may also be accessed on the website of the NUS Department of Real Estate: http://www.rst.nus.edu.sg/newsreal/index.html

To unsubscribe, simply reply to this email with the message “Unsubscribe”.
Market Updates

Singapore Residential Price Index (SRPI)

The NUS SRPI flash overall value weighted index and two sub-indices stayed in the falling trend in December, except for the small units sub-index that rose slightly from November. The overall NUS SRPI was down by **1.2 percent** from the previous month and the sub-indices for central and non-central region were down by **1.7 percent** and **0.8 percent** respectively. The small units sub-index was volatile in the last two months, from dropping 1.9 percent in November to increasing **0.5 percent** in December.

The overall NUS SRPI of November 2014 was revised to 0.4 percent decrease from previously reported 0.3 percent decrease. While the revised sub-index for central region remained unchanged at negative 0.5 percent as the flash value reported last month, the two sub-indices for non-central region and small units were all revised moderately. The sub-index for non-central region was revised to 0.2 percent decrease from previously reported zero percent change. For the small units, the revised index in November was 2.0 percent decrease compared to the previously reported 1.9 percent decrease.

From December 13 to December 14, the overall NUS SRPI dropped **5.2 percent**. Compared to the latest crisis low in March 2009, the overall NUS SRPI was **49.4 percent** higher. The overall NUS SRPI was **8.4 percent** below the recent peak in July 2013.

The SRPI is a transactions-based index that tracks the month-on-month price movements of private non-landed residential properties in Singapore. For detailed information concerning the monthly NUS SRPI, please see the Index Methodology at [http://www.ires.nus.edu.sg/srpi/srpi_im.aspx](http://www.ires.nus.edu.sg/srpi/srpi_im.aspx).

The next release will be on 2 March, 2015 and will include monthly NUS SRPI flash data for January 2015 and revised data for December 2014.

NUS SRPI Updated Value-weighted Index

### December 2014 Flash SRPI Values

<table>
<thead>
<tr>
<th>NUS SRPI Basket as at December 2013</th>
<th>Index Value (Mar 2009= 100)</th>
<th>Month-on-month change</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUS SRPI Overall</td>
<td>149.4</td>
<td>-1.2%</td>
</tr>
<tr>
<td>NUS SRPI Central (excluding small units)</td>
<td>136.3</td>
<td>-1.7%</td>
</tr>
<tr>
<td>NUS SRPI Non-Central (excluding small units)</td>
<td>162.5</td>
<td>-0.8%</td>
</tr>
<tr>
<td>NUS SRPI Small</td>
<td>171.7</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

(Reflective of transactions received as at 20 January 2015)
November 2014 Revised SRPI Values

<table>
<thead>
<tr>
<th>NUS SRPI Basket as at December 2011</th>
<th>Index Value (Mar 2009= 100)</th>
<th>Month-on-month change</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUS SRPI Overall</td>
<td>151.1</td>
<td>-0.4%</td>
</tr>
<tr>
<td>NUS SRPI Central (excluding small units)</td>
<td>138.6</td>
<td>-0.5%</td>
</tr>
<tr>
<td>NUS SRPI Non-Central (excluding small units)</td>
<td>163.8</td>
<td>-0.2%</td>
</tr>
<tr>
<td>NUS SRPI Small</td>
<td>170.8</td>
<td>-2.0%</td>
</tr>
</tbody>
</table>

(Reflective of transactions received as at 20 January 2015)

With effect from 28 July 2011, IRES will publish the overall SRPI, two regional sub-indices that exclude small units and a small unit sub-index. A small unit has floor area of 506 square feet or below.

NUS SRPI up-to-date Value-weighted Index Charts

The SRPI, Central Region SRPI (excluding small units), non-Central Region SRPI (excluding small units) and SRPI Small (December 2005 to December 2014; 2005.12=100)

The SRPI, Central Region SRPI (excluding small units), non-Central Region SRPI (excluding small units) and SRPI Small (March 2009 to December 2014; 2009.03=100)
Overall NUS SRPI, Crisis Trough vs. Recent Peak (value-weighted) (December 2005 to December 2014; 2005.12=100)

Overall SRPI, Sales Volume by 1st Revision (value-weighted) (December 2005 to December 2014; 2005.12=100)
Developer sentiment remains weak

The 4Q14 NUS-REDAS Real Estate Sentiment Index (RESI) Survey shows that the Composite Sentiment Index, a derived indicator for the overall real estate market sentiment in Singapore, went down to 3.4 from 3.7 in 3Q14. The Current Sentiment Index declined to 3.6 from 3.7 in 3Q14; and the Future Sentiment Index declined to 3.2 from 3.6 in 3Q14. A score under five indicates deteriorating market conditions, while scores above five indicate improving conditions.

The worst performing sector in the 4Q14 is the residential sector, whereas the best performing sector in 4Q14 is the office sector. The prime residential sector showed a current net balance of -59% and a future net balance of -61%; while the suburban residential sector showed a current net balance of -52% and a future net balance of -65% in 3Q14. The office sector had a current net balance of +38% and a future net balance of +38%.

A “current and future net balance percentage” is used to indicate current and future sentiments about real estate development and market conditions in Singapore. It is the difference between the proportion of respondents who have selected the positive options (“better” and “increase”) and the proportion of respondents who have selected the negative options (“worse” and “decrease”).

More than 67% of the respondents surveyed in 4Q14 anticipate that slowing down in the global economy and rises in inflation and interest rates will adversely impact market sentiment in the next 6 months. 65.6% of them indicate that property market will face excessive supply from new launches.

35.1% of the developers surveyed in 4Q14 expect new property launches to hold at the same level in the next six months. 32.4% of the developers expect moderately more launches. 16.2% of them indicate that they will launch moderately less units, down from 12% reported in the last quarter. On price changes, 70.3% of the developers anticipate a moderate decrease in residential property prices in the next six months. In 4Q14, 24.3% of them expect price to hold, a slight decrease by 1.7% from the number reported in the last quarter.

“One respondent commented that pricing of new residential launches in the next 6 months is expected to be lower by about 10% because of TDSR; and after Chinese New Year in 2015, developers are likely to load off their stocks and to re-launch existing units. Developers do not foresee the Government to relax any measures soon.”

More than 70% of the respondents project that property prices will decrease by 5% to 10% and new sales transaction volume will drop by 15% to 20% in 2015.
43.5% of the respondents wish that the government will be able to review the Additional Buyer’s Stamp Duty (ABSD), Seller’s Stamp Duty (SSD) and Total Debt Servicing Ratio (TDSR) in 2015.

For Full Report: Please click here

NUS/Wharton/Tsinghua Chinese Residential Land Price Indexes (CRLPI)

Prof Yongheng Deng
Institute of Real Estate Studies
National University of Singapore

Prof Joseph Gyourko
The Wharton School
University of Pennsylvania

A/Prof Jing Wu
Hang Lung Center for Real Estate
Tsinghua University

The NUS/Wharton/Tsinghua Chinese Residential Land Price Indexes (CRLPI) reports series on real constant quality land prices across 35 major markets in China. See our white paper for more information on the underlying data and technical issues in the creation of the index.

The NUS/Wharton/Tsinghua Chinese Residential Land Price Index appreciated by nearly 11% during the fourth quarter of 2014, more than recovering from the 6.8% drop in the previous quarter. Figure 1’s plot of the aggregate index still shows that growth in Chinese land markets has begun to slow on average, with two of the last four quarters showing real declines in values. Calendar year 2014 saw the aggregate index rise by 7.1%, which still leaves the real annual compound appreciation rate over the past eleven years at 15.2% (see Table 1 below).

Even though real land prices recovered in aggregate, transactions volumes did not. Figure 2’s plot of the number of vacant land parcels sold across the 35 major markets shows on 277 sales occurred in 2014(4)). This is 56% of the sales volume from a year earlier in 2013(4) and only 40% of the number sold two years earlier in 2012(4). The last three quarters of data show sales volumes not seen since the global financial crisis.

The end of the year also allows us to update our regional indexes in Figure 3. Two of the three regions saw price declines in the second half of 2014. The Middle region index declined by 3%, following a robust appreciation of 11% during the last two quarters. The decline in the West region index also by 3%, was the second in a row for that region. Its land values fell by over 12% on the year. Real growth in the East region remains positive, although it slowed a bit, to 4% in the second half of 2014 from 6% in the first half.

Clearly, recent growth in the aggregate index is being driven by cities in the East region of China. Table 2 reports data on long-run growth rates in each region. Figure 4 plots land price indexes for the dozen markets for which we have enough land sales to estimate constant quality prices annually. Some markets such as Beijing remain remarkably robust. After a very strong 47% real price growth in 2013, Beijing’s land price index grew by an even higher 54% in 2014.

Over the decade-long period for which we have data on the Chinese capital, real land values have increased by 1,036 percent. Hangzhou, Guangzhou, Shanghai and Wuhan also have experienced two consecutive years of real price growth. However, none has seen aggregate growth over time that approaches that for Beijing. And, the positive trend in the Guangzhou and Shanghai markets is stronger than Hangzhou and Wuhan. Hangzhou’s land values also
continue on an upward trend, but prices in that market have not recovered their 2010 peak. The Tianjin market was up modestly last year, but its price index shows a flat trend over the past couple of years. Real land values declined last year in a number of markets: Changsha, Chongqing, Dalian, Nanjing and Xian. For Dalian, 2014 was the second consecutive drop in real prices. They have fallen by 26% from their 2011 peak in that market.

Table 3’s information on compound annual growth rates over time in these twelve cities show large longer run differences in their price performance. Beijing is not just a recent positive outlier. It’s nearly 28% real annual growth rate in land values dwarfs Shanghai’s second highest rate of 20%. Dalian, Wuhan and Xian have real appreciation rates in the single digits, and that for Chengdu is barely above 10%. Variation this large in real price growth across cities cautions against speaking of the ‘Chinese land market’ as being a single entity.

For more on CRLPI: Please click [here](#)
Figure 2: Number of Parcels Sold
35 Markets (Quarterly: 2004q1 – 2014q4)

Figure 3: Chinese Regional Real Land Price Index
East, Middle and West Regions, Constant Quality Series
(Semi-annually: 2004h1 – 2014h2)

Figure 4: City-Level Real Land Price Index, Twelve Cities, Constant Quality Series
(Annually: 2004 – 2014)
Figure 4 (continued): City-Level Real Land Price Index, Twelve Cities, Constant Quality Series (Annually: 2004 – 2014)
Table 1: National Price Index Growth (35 City Aggregate)
2004(1)-2014(4)
44 quarters

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Appreciation</td>
<td>357%</td>
</tr>
<tr>
<td>Compound Quarterly Growth Rate</td>
<td>3.6%</td>
</tr>
<tr>
<td>Annualized Compound Quarterly Rate</td>
<td>15.2%</td>
</tr>
</tbody>
</table>

Table 2: Regional Price Index Growth
2004h1-2014h2
22 half years

<table>
<thead>
<tr>
<th></th>
<th>East</th>
<th>Middle</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Appreciation</td>
<td>324%</td>
<td>326%</td>
<td>231%</td>
</tr>
<tr>
<td>Compound Semi-Annually Growth Rate</td>
<td>7.1%</td>
<td>7.1%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Annualized Compound Semi-Annually Rate</td>
<td>14.8%</td>
<td>14.8%</td>
<td>12.1%</td>
</tr>
</tbody>
</table>

Table 3: City Price Index Growth

<table>
<thead>
<tr>
<th></th>
<th>Beijing</th>
<th>Changsha</th>
<th>Chengdu</th>
<th>Chongqing</th>
<th>Dalian</th>
<th>Hangzhou</th>
<th>Nanjing</th>
<th>Tianjin</th>
<th>Wuhan</th>
<th>Shanghai</th>
<th>Guangzhou</th>
<th>Xian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Appreciation</td>
<td>1036%</td>
<td>248%</td>
<td>201%</td>
<td>449%</td>
<td>101%</td>
<td>273%</td>
<td>248%</td>
<td>332%</td>
<td>102%</td>
<td>342%</td>
<td>169%</td>
<td>78%</td>
</tr>
<tr>
<td>Compound Annual Growth Rate</td>
<td>27.5%</td>
<td>13.3%</td>
<td>11.6%</td>
<td>18.6%</td>
<td>7.2%</td>
<td>14.1%</td>
<td>13.3%</td>
<td>15.7%</td>
<td>7.3%</td>
<td>20.4%</td>
<td>15.2%</td>
<td>8.6%</td>
</tr>
</tbody>
</table>
Property Price Upsurge in Singapore’s Mass Market – How the Role of Foreign Capital Affects You

View the original research paper here: Foreign Liquidity to Real Estate Market: Ripple Effect and Housing Price Dynamics
Authors: A/Prof. Wen-Chi Liao | Dr. Daxuan Zhao | Ms. Li Ping Lim | Dr. Grace Khei Mie Wong

Article contribution by: Mr. Edwin Heng

Engage in conversation with any resident and the proverbial property ogre would invariably rear its head, sneaking its way into even the most casual of banter topics. Whether we gripe or cheer, there is recognition that the perennial talk of the town in Singapore revolves largely around housing.

Indeed, regardless of creed or social standing, with home ownership on the island state hovering around the 90% mark, housing related issues remain close to our hearts.

To be sure, depending on what you are angling from the market, the property ogre can be perceived either way – friend or fiend. As recent as four years ago, during the period 2010-11, strong global economic tailwinds seemed to have provided the ogre with a pair of wings. Housing prices headed north rapidly and surged past the previous peak last seen in 1998, before the onset of the Asian Financial Crisis. This came on the back of Asia’s surging growth, an expanding middle income populace in the region, China’s fast swelling affluent class and a global economy awash with liquidity. Correspondingly, the issue of affordability surfaced. Fingers were frantically pointing, searching for a convenient scapegoat to reproach.

This article does not dispute the possibility that a confluence of each of these or more factors may be involved in bolstering the growth of real estate prices in Singapore. Neither is this article a debate about the culpability of any of these factors. Rather, it takes a close and hard look at the extent to which foreign liquidity in general may have played in influencing price movements in the local real estate market.

So, what’s the upshot of this?

Simply put, the inflow of foreign money into the central region of Singapore's private property market does not only spark an uptick of prices in the core regions, but also brings about a ‘ripple effect’ that affects prices in the non-central regions. This ‘ripple effect’ could account for as much as 25% of the fluctuations in house price growth in these regions. This may extend further outwards and invariably affect public housing prices as well, a segment where foreigners’ participation is less active and where over 80% of the population resides.

An understanding of how foreign money affects the price dynamics and how the transmission mechanism operates on our local shores would therefore allow for more informed policy decision making. This is especially pertinent since home ownership in Singapore forms the cornerstone of our public housing programme. In Singapore, the government attempts to influence the flow of foreign liquidity in part to stabilize the nation’s real estate market. It
does so by adjusting its regulations on foreign investment - easing them in a dull market and tightening them when the market is looking to overheat.

Before we become all edgy, let’s take a quick look back at how regulations shaped the housing landscape.

Regulations on foreign buyers’ home purchases go back a long way, to 1973. To ensure affordable and sufficient housing for Singaporeans, the Residential Property Act imposed restrictions on foreign ownership of private residential property, namely, that foreigners could only acquire apartments in buildings higher than 6 stories or in approved condominium developments.

Let’s fast forward to the 21st century when the market has already developed a certain buoyancy on the back of sustained economic growth.

Unfortunately, several events during this period placed a dampener on the housing market, namely, the bust of the Dot-Com bubble and the outbreak of the Severe Acute Respiratory Syndrome (SARS) epidemic. The housing market took a hit. Its continued sluggishness was not something to be welcomed given that housing asset in Singapore holds the largest store of household wealth for many. This could pose severe financial hardship for a large number of people if not properly managed.

Against this backdrop of what may be described as a somewhat languid, or dismal as what others may term, housing market, a calibrated scaling back on foreign ownership restrictions was initiated:

- In 2004, foreigners were allowed to buy land parcels and completed homes at Sentosa Cove.
- In 2005, the government removed the restriction for foreigners in owning apartments below 6 stories, raised the loan-to-value limit and reduced the cash down payment.

The result?

The percentage of foreign buyers rose from 6% to 10% within 2 quarters and the presale segment increased from 6% to 17%, after the first slew of measures in 2004. From 2005 to 2007, foreign buyers accounted for 10% and 15% sales in the entire private residential market and the presale segment, respectively. Compare that to the period 2000-04 when total sales made to foreigners accounted for only 6%. Overall, between the period 2004 and 2011, private property purchases by foreigners, excluding permanent residents, constituted a share of approximately 11% of all property transactions in Singapore.

As you would have rightly guessed, there is uneven distribution geographically.

Sales to foreigners on average constituted 14% of total sales in the central region, but only 5% in the North-East and North regions. Perhaps due to the low concentration of foreign purchases in the suburban areas, the growth of foreigners’ acquisitions in these non-central regions display a smaller price impact on overall property prices in these regions, relative to the more significant price impact in the central region created by the higher concentration of foreign purchases in the central.
That is not all. As mentioned earlier, what is more interesting is that in addition to the direct price impact to the non-central regions created by foreign purchases in these regions, property prices in the non-central regions were also affected by the upsurge of prices in the central regions – the ‘ripple effect’.

Presumably, the reverse holds true and we can imagine the pricing dynamics working in reverse order when converse conditions prevail, setting in motion the property wheels which would again cause some to gripe and others to cheer.

This article attempts to take a crack at examining the hard but real issue of how and the extent to which foreign liquidity can exert upward pressure on asset prices in Singapore. Even as it aims to inform the public, it recognizes that the government has been handed the most unenviable and challenging task of managing people’s expectations, yet treading a fine line of ensuring that its citizenry’s store of wealth in property is maintained, or better still, appreciating year-on-year, and still having to contain possible run-away prices that would rouse the affordability beast.

Selectivity, Spatial Autocorrelation, and the Valuation of Transit Accessibility

Principal Investigator: Dr. Mi Diao

Urban rail transit has been widely considered an efficient and environment-friendly mode of transport to address deteriorating urban transportation conditions. However, in recent years, the increasing development, operation and maintenance costs of urban rail transit have imposed significant challenges on governments and transit agencies worldwide. With shrinking state and local budgets, innovative financing mechanisms are needed to support the sustainable development of urban rail transit. Thus, the feasibility of funding transit systems through land value capture has attracted interests from many researchers and policy makers.

The primary rationale for value capture is that the beneficiaries of transport investment are not limited to direct users but also include landowners and developers who benefit from enhanced location advantages. Following the benefit principle that the cost paid by a contributor should be proportional to the benefit received, it is possible to recoup part or all of the land value increase to support public transportation. Various policy instruments have been developed that aim to capture the land value increase attributable to infrastructure improvements, such as land value taxation, special assessment financing, and tax increment financing. The effective implementation of these policies demands reliable estimates of the value-added of transit accessibility.

The dominant technique in valuing housing attributes is hedonic price analysis. However, hedonic price analysis may suffer from two limitations. First, Hedonic price models are typically calibrated using samples of sold properties. If the sold properties are a non-random sample of the housing stock, the hedonic price model may generate biased estimates for the population of properties. Second, a hedonic price valuation of housing attributes can be misleading when spatial autocorrelation exists.
In this paper, we contribute to the increasing literature on transit accessibility valuation by accounting for both selectivity and spatial autocorrelation in the assessment and evaluate their impacts on value capture. We apply the Heckman two-step procedure to correct for the potential sample selection bias and add spatial autoregressive terms to the conventional Heckman selection model to correct for spatial autocorrelation. Both the spatial lag and spatial error types of spatial autocorrelation are considered in this study.

In the empirical analysis, we apply the proposed modeling framework to assess the impact of subway accessibility on single-family property values in the city of Boston. The Massachusetts Bay Transportation Authority (MBTA) is the public operator of most bus, subway, commuter rail, and ferry routes in Greater Boston. In recent years, the MBTA has been facing increasing financial difficulties. This study’s primary purpose is to use Boston as an example to demonstrate the potential bias caused by selectivity and spatial autocorrelation in valuing transit accessibility and estimate the value capture potential in a US city with relatively high density and transit ridership. Figure 1(a) plots the impact zone of subway stations in the city of Boston, and Figure 1(b) shows part of the study area in greater detail.

The major datasets used in this study include the transaction and stock data of single-family properties from 1998 to 2007 in the city of Boston. Based on the housing transaction and stock data, we construct a house transaction history event database. The final datasets for analysis include a total of 1,198,031 observations, which comprise every single-family property parcel in Boston multiplied by the number of quarters the property was included in the assessment records.

We calibrate four models to value the accessibility advantage that results from subway stations in Boston and assess the impact of selectivity and spatial autocorrelation by comparing the estimation results across models. The models are as follows:

1. Hedonic price model;
2. Heckman selection model;
3. Heckman selection model with spatially lagged dependent; and
The estimation results suggest that the sample of sold properties is a non-random sample of the population of single-family properties. Exclusive reliance on the sample of sold properties in the assessment tends to produce biased inference for the entire housing stock. The price model exhibits significant spatial dependence in the form of both spatial lag and spatial error. After controlling for the structural, neighborhood socioeconomic, and built-environment variables and the transaction quarter, we find that households in Boston pay a premium for living within one-half mile of a subway station, as reflected by the positive and significant coefficients of the proximity to a subway station variable in the four models.

The willingness-to-pay (WTP) for subway accessibility is computed for a property priced at 325.0 thousand dollars (the mean sale price of the sold sample). The WTP estimates differ across the four models significantly, which suggests that selectivity and spatial autocorrelation play a significant role in valuing subway accessibility. Based on the result of the conventional hedonic price model, the WTP for subway accessibility is 19.1 thousand dollars for a property valued at the mean transaction price of 325.0 thousand dollars. However, the amount decreases to 10.0 thousand dollars when selectivity and spatial-error type autocorrelation are controlled. The related bias is approximately 91.0%. A bias of such magnitude could misinform relevant policy designs on value capture program.

Based on the assessment records for 2005, the aggregate assessed value for single-family properties in the impact zone of subway stations is 3.6 billion dollars. If we apply the estimation result of the Heckman selection model with spatial error to the assessed value of single-family properties in the impact zone, the total value-added of subway stations is 109.9 million dollars, which is approximately 3.05% of the total assessed value. However, single-family properties represent only a small portion of residential properties. The value-added of the MBTA subway system could be even higher if we consider other types of residential properties and commercial properties in the impact zone. This initial assessment reveals the substantial potential of value capture that is available for the MBTA. However, under a hypothetical property tax reassignment scenario, the annual revenue from value capture is small compared with the transit fare revenue and the operating deficit of the MBTA. Without an additional tax burden on the residents, property-tax-based value capture programs are unlikely to contribute significantly in reducing the MBTA’s deficit.
**Events**

**AREUEA-ASSA Annual Conference**

Prof. Deng Yongheng, Provost’s Chair and Director of NUS Institute of Real Estate Studies and Head of Department of Real Estate at the National University of Singapore, has delivered the AREUEA Presidential Speech to members and friends of the American Real Estate and Urban Economics Association (AREUEA) at the AREUEA-ASSA Annual Conference in Boston, on 4th January 2015.

Established 50 years ago with 20 academics from the United States, AREUEA has since grown and now boasts a strong base of 800 members hailing from leading universities all around the world.

Prof. Deng is the first academic of Asian background to be elected as President of this prestigious academic association in the field of real estate finance and urban economics over the half century history of AREUEA. Along with its growing academic clout that has extended beyond the shores of the western hemisphere in recent years, this is also a solid...
reflection and testament on how interest in real estate finance and urban economic research has steadily been shifting towards Asia.

Prof Deng’s AREUEA presidential speech, titled “Disparities in the Geographic Focus of Real Estate and Urban Economics Publications,” is most apt in revealing this emerging trend. It demonstrates that while research papers centred around U.S. topics are more likely to appear in top-tier Economics, Finance, and Real Estate journals, in recent years, we have been witnessing a rising trend of publications on Asian topics in these top-tier academic journals.

His research also shows that even as more authors from leading Asian universities/research institutions continue to contribute to the top-tier journal publications in the fields of real estate finance and urban economics over the years, authors affiliated with Singaporean universities contribute about 40% of this growing trend.
IRES Director, Professor Deng Yongheng, was invited to give the keynote speech at the 5th Annual Conference of Real Estate Industry in China, held in Sanya City, Hainan Island, China. The theme of the conference focuses on China’s urbanization process: the challenges and opportunities arising from China’s inflection point in the current property cycle towards a slower but steadier long-term growth.

Professor Deng spoke on the “fission, survival, integration” of the property and financial markets in China, the trend of the imbalance in the Chinese local government’s budget, the securitization of real estate assets - touching on mortgage backed securities and the creation of real estate investment trusts (REITs).

The Annual Conference was attended by some of the major players in China’s property market, for example, Vanke, Greenland and Sino-Ocean Land. The conference was held from 14th – 16th January 2015 and provided a platform for industry players to review the current status of China’s real estate market, discuss the challenges faced in moving on to the “silver times” of China’s property market including the use of social media marketing and big data, and brainstorm on solutions to overcome these problems.
What’s Coming Up?

NUS-IRES Public Lecture

"WHAT IS BEHIND THE DISAPPOINTING GROWTH WORLDWIDE AFTER THE FINANCIAL CRISIS?"
Professor Kiyohiko G. Nishimura
Dean of the Graduate School of Economics &
Chairman of the Faculty of Economics, University of Tokyo

Date: 17 March (Tuesday)  
Time: 12:00pm – 2:00pm  
Venue: Seminar Room Level 1,  
1º Building, NUS  
21 Heng Mui Keng Terrace, Singapore 119613

Program

12:00 – 12:15  Registration  
12:15 – 13:00  Public Lecture  
13:00 – 13:15  Q&A  
13:15 – 14:00  Networking Lunch

Abstract:
What is behind the disappointing growth worldwide after the Financial Crisis? It is the composite effect of three simultaneous global "seismic" shifts: (a) a persistent fallout from the "great property bubbles/busts" (b) employment-unfriendly technological change of ICT, and (c) a shift from the demographic bonus phase to the onus phase of aging population in many economies.

This lecture discusses their macroeconomic implications both in the short run and long run, in particular in developed economies. The focus is on the role of monetary policy in this new environment.

Guest Speaker Biography:
Kiyohiko G. Nishimura is Dean of the Graduate School of Economics and Chairman of the Faculty of Economics at the University of Tokyo. Before returning to academia, he was Deputy Governor for five years until March 19, 2013, one of the most turbulent periods in the history of the world economy and central banking. He has been particularly influential in the debates over macro-prudential policies, especially in pointing out the critical importance of demographic factors on property bubbles and financial crisis. His work and speeches on demography and economic policy have been cited widely and policy makers around the world have increasingly been recognizing the urgency of the problem. He received his B.A. (1975) and M.A. (1977) from the University of Tokyo, and Ph. D. (1982) from Yale University. He was an Arthur M. Okun Research Fellow (1981-1982) at the Brookings Institution in Washington, D.C., before joining the Faculty of Economics at the University of Tokyo in 1993 where he was Associate Professor (1983-1994) and Professor (1994-2005). He was jointly appointed as Executive Research Fellow of the Economic and Social Research Institute of the Cabinet Office of the Government of Japan between 2003 and 2005.
joining the Bank of Japan as its Member of the Policy Board (2005-2008), and then as Deputy Governor (2008-2013). Since February 2014, he is Chairman of the Statistical Commission of the Government of Japan, which oversees the official statistics in Japan.

He is now a senior advisor of the Asian Economic Panel and a member of the editorial board of several international academic journals in economics and management sciences. He also held business positions before joining the Bank of Japan: he sat on the Advisory Board of the Fujitsu Research Institute (Japan) and he was an academic advisor of Recruit Ltd. (Japan) and Investment Property Databank (U.K.). Since July 2014, he is a non-executive director of COOKPAD Inc., a global IT company managing the world’s largest recipe-exchange site on the smartphone platform. Since December 2014, he is a member of the MNI Connect Advisory Board of Market News International, a leading provider of news and intelligence for the global foreign exchange and fixed income markets.

Faculty / Student News

Faculty Achievements

Professor Liow Kim Hiang

Professor Liow Kim Hiang’s paper with Schindler, Felix, entitled "Linkages and Volatility Spillover Effects Between Office Markets in Europe" had won the DTZ Research Institute Award for Academic Innovation 2014.

Professor Ong Seow Eng

ARES Manuscript Prize was awarded to Professor Ong Seow Eng, Deng Xiaoying (PhD student) and Dr Qian Meijun (NUS Business School) for their joint paper "Real Estate Risk, Corporate Investment and Financing Choice". The paper was presented at ARES Meeting held from 1-5 April 2014 in California, USA.

Prof Ong was also awarded a School Teaching Excellence Award for AY2013/2014.

Dr Malone-Lee Lai Choo

Dr Malone-Lee Lai Choo has been invited to join the International Advisory Board of the Graduate Program in Sustainability Science-Global Leadership Initiative (GPSS-GLI) of the University of Tokyo in December 2014.
The following faculty members were awarded the School Teaching Excellence Award for AY2013/2014.

(Clockwise from top left: Assoc. Prof. Alice Christudason, Dr. Chow Yuen Leng, Dr. Seah Kiat Ying, Dr. Masaki Mori)

Student Achievements

4th Year student, Deborah Cheok, did us proud when she won the annual English Economic Essay Contest (International category) organized by The Korea Times (English Version) for university students around the world.

Her award-winning essay centred on the topic: “How can Korea have Samsung- or Hyundai-like global players in the financial sector?” It was published on 19 November 2014 as part of the 64th anniversary celebration of The Korea Times.

Get Connected!

The NUS Real Estate News may also be accessed on the website of the NUS Department of Real Estate:
http://www.rst.nus.edu.sg/newsreal/index.html