

RGC Ref. No.: UGC/FDS15/B01/18 (please insert ref. above)

**RESEARCH GRANTS COUNCIL
COMPETITIVE RESEARCH FUNDING SCHEMES FOR
THE LOCAL SELF-FINANCING DEGREE SECTOR**

FACULTY DEVELOPMENT SCHEME (FDS)

Completion Report

(for completed projects only)

<p><u>Submission Deadlines:</u></p> <ol style="list-style-type: none"> 1. Auditor's report with unspent balance, if any: within six months of the approved project completion date. 2. Completion report: within 12 months of the approved project completion date.
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Part A: The Project and Investigator(s)

1. Project Title

Discovering the financial and economic meanings behind housing block trades

2. Investigator(s) and Academic Department(s) / Unit(s) Involved

Research Team	Name / Post	Unit / Department / Institution
Principal Investigator	Dr. TANG Chi-ho / Associate Professor	Department of Economics and Finance, HKSYU
Co-Investigator(s)	Dr. LEUNG Charles Ka-yui / Associate Professor	Department of Economics and Finance, CITYU
Others		

3. Project Duration

	Original	Revised	Date of RGC / Institution Approval <i>(must be quoted)</i>
Project Start Date	1/1/2019	N/A	N/A
Project Completion Date	31/12/2020	N/A	N/A
Duration <i>(in month)</i>	24	N/A	N/A
Deadline for Submission of Completion Report	31/12/2021	N/A	N/A

Part B: The Final Report

5. Project Objectives

5.1 Objectives as per original application

1. To study the high-end of the housing market and hence completes the full picture of housing ladder;
2. To investigate the popularity of block trade units and explain the developers' strategies for selling housing units in primary market;
3. To compute the block trade premium (BTP) generated from block-trading activities, and study the interrelationships between BTP and macroeconomic variables;
4. To help the government design both top-down and bottom-up strategies for solving housing problems and upgrading living standards in Hong Kong.

5.2 Revised objectives

Date of approval from the RGC: N/A

Reasons for the change: N/A

1. N/A

2. N/A

3. N/A

5.3 Realisation of the objectives

(Maximum 1 page; please state how and to what extent the project objectives have been achieved; give reasons for under-achievements and outline attempts to overcome problems, if any)

To achieve the four major objectives stated in the funding proposal, the principal investigator and co-investigator are collaborated on three different projects. The first project aims to study the supply side of Hong Kong housing market and delivers a full picture of the housing market dynamics. It is published in *Economic and Political Studies*. The second project argues that commonly used house price-to-income ratio may be misleading in Hong Kong, where almost half of the population living in either public rental housing or subsidized ownership. It revisits the relationships between economic fundamentals and the housing market of Hong Kong. The work is published in the *Quarterly Bulletin of Central Bank of the Republic of China (Taiwan)*. The third project

studies the block trade activities. It examines the popularity of block trade units (which are renamed as “top floor units” in the submitted paper) among residential buildings, explains its relationship with macroeconomy and highlights the importance of block trade units in constructing efficient investment portfolio. Also, through investigating the speculative and non-speculative trading records among block trade units and ordinary housing units, it is found that financial crisis will be a large-scale event that dramatically changes the behavior among speculators and homebuyers. It is submitted to *Management Science* and is now under review. Overall speaking, the three projects enrich our understanding on the high-end of Hong Kong housing market and provide useful information for policy making. All four objectives have been met.

5.4 Summary of objectives addressed to date

Objectives <i>(as per 5.1/5.2 above)</i>	Addressed <i>(please tick)</i>	Percentage Achieved <i>(please estimate)</i>
1. To study the high-end of the housing market and hence completes the full picture of housing ladder	✓	100%
2. To investigate the popularity of block trade units and explain the developers' strategies for selling housing units in primary market	✓	100%
3. To compute the block trade premium (BTP) generated from block-trading activities, and study the interrelationships between BTP and macroeconomic variables	✓	100%
4. To help the government design both top-down and bottom-up strategies for solving housing problems and upgrading living standards in Hong Kong	✓	100%

6. Research Outcome

6.1 Major findings and research outcome

(Maximum 1 page; please make reference to Part C where necessary)

This grant supports the research team to produce three journal manuscripts, where two of them were published in *Economic and Political Studies* and the *Quarterly Bulletin of Central Bank of the Republic of China (Taiwan)*, and another one is under review by *Management Science*. The major findings include:

- Recently, about 80% of the newly completed housing estates have included blocks trade units. These units are scarce and developers are treating them as differentiated products. They are accompanied by an accessible roof, thus offering better living standards and tenant's prestige. We find that homebuyers are willing to pay a relatively stable premium for owning these units.
- There is unidirectional causality from the changes in TED spread to block trade premium at 5% significance level. A rise of the perceived credit risk in US will translate into a worsening of the credit market in Hong Kong. Block trade units will be sold at a lower price and thus producing a lower block trade premium.
- Block trade units are having lower correlation with other traditional assets, and hence they are important assets in forming optimal portfolio.
- Speculation activities of block trade units and ordinary housing units are found to be similar over time. The result of Markov Switching shows that the burst of housing bubble during Asian Financial Crisis drives out a lot of housing speculation from the market.
- The new housing supply per housing stock is found to be decreasing over time. As shown by quarterly Herfindahl Index, the primary housing market is very concentrated during 2007-2011. It would be interesting to study the oligopolistic structure primary housing market in the future research.
- Relative to the GDP per capita, we find that the wage index and the household income are failed to catch up with the house price, meaning that the "competitive labor market paradigm" is at odds with the data. In addition, house price-to-income ratio may be a misleading indicator to show that Hong Kong housing is unaffordable, because around one-third of the population is insulated from the market fluctuations.

6.2 Potential for further development of the research and the proposed course of action

(Maximum half a page)

Future research can be extended in several ways. First, it is plausible to study how the natural constraint and the rise of high-rise buildings tied together would impact business planning and policy design. One can also compare the top floor units across cities, where regulations and geographies differ. We may see how the optimal weight of top floor units would vary across city-specific portfolios. Alternatively, one can combine household data and investigate which type of households would self-select into the market segment of top floor units. Researchers can also wait for more extended time series to examine whether a global shock (e.g., COVID-19) would alter the dynamics between the top floor units and ordinary units and the optimal portfolio in general. Last but not least, the grant helps us to have a better understanding of the asset markets in Hong Kong and we are considering for applying another FDS project.

7. Layman's Summary

(Describe in layman's language the nature, significance and value of the research project, in no more than 200 words)

Hong Kong is facing population growth with limited land supply. Therefore, building skyscrapers is a common practice for offering more living spaces. Our research studies the block trade units located at the top of the residential buildings, which is a kind of differentiated product that catches attention among homebuyers, investors, policymakers and researchers. The empirical findings are three-fold. First, the paper finds that block trade premium is positive during the whole sampling period, meaning that the “value of social status” is embedded inside block trade units. Also, our results suggest that the performance in credit market and mass housing market provides rich information on measuring block trade premium. Second, block trade units have a low correlation with the traditional assets, and hence it is an important asset in the formation of optimal portfolio. Third, the speculative behavior of block trade units and ordinary housing units is found to have similar pattern, but the “non-speculative” counterpart is different. Asian Financial Crisis is the large-scale event that dramatically changes the behavior among speculators and homebuyers.

Part C: Research Output**8. Peer-Reviewed Journal Publication(s) Arising Directly From This Research Project**

(Please attach a copy of the publication and/or the letter of acceptance if not yet submitted in the previous progress report(s). All listed publications must acknowledge RGC's funding support by quoting the specific grant reference.)

The Latest Status of Publications				Author(s) (denote the corresponding author with an asterisk*)	Title and Journal / Book (with the volume, pages and other necessary publishing details specified)	Submitted to RGC (indicate the year ending of the relevant progress report)	Attached to this Report (Yes or No)	Acknowledged the Support of RGC (Yes or No)	Accessible from the Institutional Repository (Yes or No)
Year of Publication	Year of Acceptance (For paper accepted but not yet published)	Under Review	Under Preparation (optional)						
2020	N/A	N/A	N/A	LEUNG Charles Ka-yui*, NG Joe Cho-Yiu, TANG Chi-ho	What do we know about housing supply? The case of Hong Kong SAR. <i>Economic and Political Studies</i> , 8(1), 6-20.	2021	Yes (Appendix 1)	Yes	Yes
2020	N/A	N/A	N/A	LEUNG Charles Ka-yui*, NG Joe Cho-Yiu, TANG Chi-ho	Why is the Hong Kong housing market unaffordable? Some stylized facts and estimations. <i>Quarterly Bulletin</i> , Central Bank of	2021	Yes (Appendix 2)	Yes	No

					the Republic of China (Taiwan), 42(1), 5-58.				
N/A	N/A	Yes	N/A	TANG Chi-ho*, LEUNG Charles Ka Yui	A view from the top: Should we treat top floor units as a separate asset class? (Formerly known as “A View from the Top: Are Top Floor Units Good for Consumption but Bad for Investment?”)	2021	Yes (Appendix x 3)	Yes	No

9. Recognized International Conference(s) In Which Paper(s) Related To This Research Project Was / Were Delivered

(Please attach a copy of each conference abstract)

Month / Year / Place	Title	Conference Name	Submitted to RGC <i>(indicate the year ending of the relevant progress report)</i>	Attached to this Report <i>(Yes or No)</i>	Acknowledged the Support of RGC <i>(Yes or No)</i>	Accessible from the Institutional Repository <i>(Yes or No)</i>
07/2021/ virtual	A View from the Top: Are Top Floor Units Good for Consumption but Bad for Investment?	2021 Virtual AsRES-GCREC-AREUEA Joint International Real Estate Conference	2021	Yes (Appendix 4)	Yes	Yes

12/2020/ virtual	A View from the Top: Are Top Floor Units Good for Consumption but Bad for Investment?	2020 Taiwan Economic Association Annual Conference	2021	Yes (Appendix 5)	Yes	Yes
11/2020/ virtual	A View from the Top: Are Top Floor Units Good for Consumption but Bad for Investment?	67 th Annual North American Meetings of the Regional Science Association International	2021	Yes (Appendix 6)	Yes	Yes
09/2020/ virtual	A View from the Top: Are Top Floor Units Good for Consumption but Bad for Investment?	2020 Joint International Virtual Conference of ACEFA and ACES	2021	Yes (Appendix 7)	Yes	Yes
07/2019/ HK	What Do We Know About Housing Supply? The Case of Hong Kong	The International Conference on Theoretical and Applied Econometrics	2019	Yes (Appendix 8)	Yes	Yes
06/2019/ HK	What do we know about housing supply? The case of Hong Kong	Symposium on the Housing Market of Greater China	2019	Yes (Appendix 9)	Yes	Yes

10. Whether Research Experience And New Knowledge Has Been Transferred / Has Contributed To Teaching And Learning

(Please elaborate)

The two papers published in 2020 are used for teaching real estate and wealth management courses in Hong Kong Shue Yan University and City University of Hong Kong.

11. Student(s) Trained

(Please attach a copy of the title page of the thesis)

Name	Degree Registered for	Date of Registration	Date of Thesis Submission / Graduation
N/A	N/A	N/A	N/A

12. Other Impact

(e.g. award of patents or prizes, collaboration with other research institutions, technology transfer, teaching enhancement, etc.)

Dr. Tang Chi Ho has now become an Associate Professor at the
 department of economics and
 Finance of Hong Kong Shue Yan University. He is also the director of the undergraduate
 programme of Bachelor of Commerce (Hons) in Financial Technology.

13. Statistics on Research Outputs

	Peer-reviewed Journal Publications	Conference Papers	Scholarly Books, Monographs and Chapters	Patents Awarded	Other Research Outputs (please specify)	
No. of outputs arising directly from this research project	2 (published) 1 (under review)	0	0	0	Type	No.
					N/A	N/A

14. Public Access Of Completion Report

(Please specify the information, if any, that cannot be provided for public access and give the reasons.)

Information that Cannot Be Provided for Public Access	Reasons
N/A	N/A