



TECHNICAL ASSISTANCE REPORT

CAYMAN ISLANDS

Report on Residential Property Price Index
Mission(November 11–22, 2024)

MAY 2025

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Summary of Mission Outcomes and Priority Recommendations

1. **Technical assistance was provided to the Lands and Survey Department (LSD) of the Cayman Islands with finalizing the compilation and dissemination of a first-time Residential Property Price Index (RPPI) during November 11–22, 2024.** This was the third mission to the LSD funded by CARTAC after two earlier missions in FY23 and FY24 focused on assessing the data source and preparing the data for index compilation, respectively.
2. **There was great interest from and continuous meetings during the mission with the Cayman Islands Monetary Authority (CIMA).** CIMA will be the main user of the to-be-released indexes. The database hosted by the LSD contains granular information on every transaction of land, developed and undeveloped, in the Cayman Islands. Further, the LSD also has the domain expertise and institutional memory on the Cayman Islands real estate market. Together with the LSD, the mission reviewed the indexes for condominiums and assessed the suitability of the data on (undeveloped) land and houses for index compilation. The mission also assisted in developing a dissemination plan, including the creation of methodological documents, and undertook training of LSD staff on all facets of RPPI compilation, including data analysis using R.
3. **Reliable property price indexes and other indicators of real estate markets are critical ingredients for policymakers to assess the state of the real estate market and its potential impact on macroeconomic and financial stability.** Rapid increases in property prices may indicate the presence of a bubble that increases vulnerabilities in the financial system, while rapid decreases in property prices could signal an impending recession as households and businesses cut consumption and investment. The indexes are also used by policy makers as an input into the design of macroprudential policies, (i.e., policies aimed to reduce systemic risks in the financial sector) and to evaluate the effectiveness of monetary policy transmission.
4. **A fact-finding mission in FY23 assessed the suitability of the data source for price index compilation.** The LSD database not only contains granular information on every transaction, it also makes available the property characteristics that allow for an explicit property-mix adjustment. After this positive outcome, an implementation mission in FY24 developed price indexes for condominiums. To this end, rules were developed for selecting the data that are in-scope of the RPPI, outlying transaction were detected and removed from the data set, hedonic price indexes were derived on that basis, and double exponential smoothing was applied to the higher-frequency indexes.
5. **Together with the LSD, the mission reviewed the indexes for condominiums and developed documentation for the dissemination.** The compilation process has been moved to the cloud using an online version of R, Posit Cloud. Transactions that involve more than a single property used to be excluded from the index compilation. A number of these group transactions consist of one condominium with parking, which are recorded as different properties in a single transaction. Now, those two-property transactions, which could definitely be split into condominium and parking, were added to the data set; that is, the condominium part, only. Also, Seven Mile Beach is now defined geo-spatially rather than through an explicit list of parcels. The documentation for the dissemination includes a launch and regular press release, a methods document as well as frequently asked questions. Further, for undeveloped land, the assessment showed that extending the scope would be relatively straightforward – unlike in many countries, land is on par with the number of transactions of condos. For houses, however, more work would be needed before a reliable index can be compiled, mostly due to a lack of information on the footprint of the buildings. Last, the geographic feature of an island state means also considering the impacts of erosion on RPPIs.
6. **The dissemination of the RPPI is scheduled with the availability of the results for the full year 2024, most likely in April 2025.** This might be somewhat delayed to May or June, though, because of the

General Election on April 30, 2025. The initial publication will include the quarterly index for condominiums in George Town as well as annual indexes for condominiums in George Town (the annual average of the quarterly indexes), West Bay, Seven Mile Beach, and other Cayman Islands, dating back to 1998. The release will be accompanied by a press release, a methodological note, and a frequently asked questions document.

7. **To support progress in the above work areas, the mission recommended a detailed one-year action plan with the following priority recommendations carrying particular weight to make headway in improving residential property prices availability:**

TABLE 1. Priority Recommendations

Target Date	Priority Recommendation	Responsible Institutions
May/June 2025	Publish the quarterly and annual indexes with a short technical documentation and a press release accompanying the initial release	LSD
Ongoing	Ensure sufficient resources are available and training on technical aspects of index compilation (R, hedonic regression)	LSD
End-2025	Initiate further development work, e.g., on undeveloped land or houses	LSD
Early 2026	Start considering impacts of erosion on RPPIs in an island state	LSD

8. **Further details on the priority recommendations and the related actions/milestones can be found in the action plan under Detailed Technical Assessment and Recommendations.**

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Acronyms

CIMA	Cayman Islands Monetary Authority
CSV	Comma-Separated Values (file)
LSD	Lands and Survey Department
RPPI	Residential Property Price Index
SQL	Structured Query Language
TDH	Time-Dummy Hedonic (Index)

Detailed Technical Assessment and Recommendations

A. REVIEW OF THE INDEXES FOR CONDOMINIUMS

Moving to The Cloud and Using Generative Artificial Intelligence

9. **Posit Cloud lets the LSD access R through an internet browser and no installation or complex configuration is required.** A free plan is offered that includes sufficient compute hours. The mission provided the R script plus files in a project shared with the LSD. Appendix I includes documentation with screenshots and detailed instructions on how to:

- Upload new data.
- Load the new data.
- Run script.
- Download output; and
- Prepare the index for dissemination.

10. **The mission also instructed the LSD on using generative artificial intelligence chatbots in understanding and maintaining the R script.** These chatbots are able to break down and explain existing blocks of code without needing any context. While generative artificial intelligence cannot be creative and might hallucinate (made-up or wrong responses), this is a great tool as compared to the online help in R. In particular, users can ask follow-up questions, request demos, and get support in developing code.

The Stratum Dimension

11. **The geographical breakdown of the published indexes is derived from analytical districts as follows:**

- Seven Mile Beach: properties to the west of West Bay Road from Cemetery Beach to the intersection at Eastern Avenue are singled out from the administrative districts of West Bay and George Town.
- George Town: the administrative district of George Town excluding Seven Mile Beach.
- West Bay: the administrative district of West Bay excluding Seven Mile Beach; and
- Other Cayman Island: the administrative districts of Bodden Town, East End and North Side as well as Cayman Brac and Little Cayman.

12. **George Town is the only analytical district which is estimated at quarterly frequency.** The simple reason behind this choice is that George Town has enough observations to reliably construct a quarterly index, while the other analytical districts do not, and are thus at annual frequency.

Splitting Group Transactions

13. **During the previous missions, group transactions, i.e., anything but single-property transfers, were excluded.** However, these kinds of transactions include the sale of two condominiums, say, but also of a condominium with parking. Group transactions of two properties, which can be split into condominium and parking, were added to the data set; that is, the condominium part, only. An attempt was made at group transactions with more than two properties but handling all possible combinations was deemed too complex given the low number of transactions.

14. **The reviewed data set consists of two subsets:**

- The original data set with group transaction excluded; and
- The condominiums that could definitively be identified from group transaction as explained below.

15. **For the latter part, the data set was filtered to include only group transactions.** These were then further filtered in a way to include only

- Two properties in the same location, sold on the same day and at the same price, with
- Different square footages, where only the larger property was retained for the final data set.

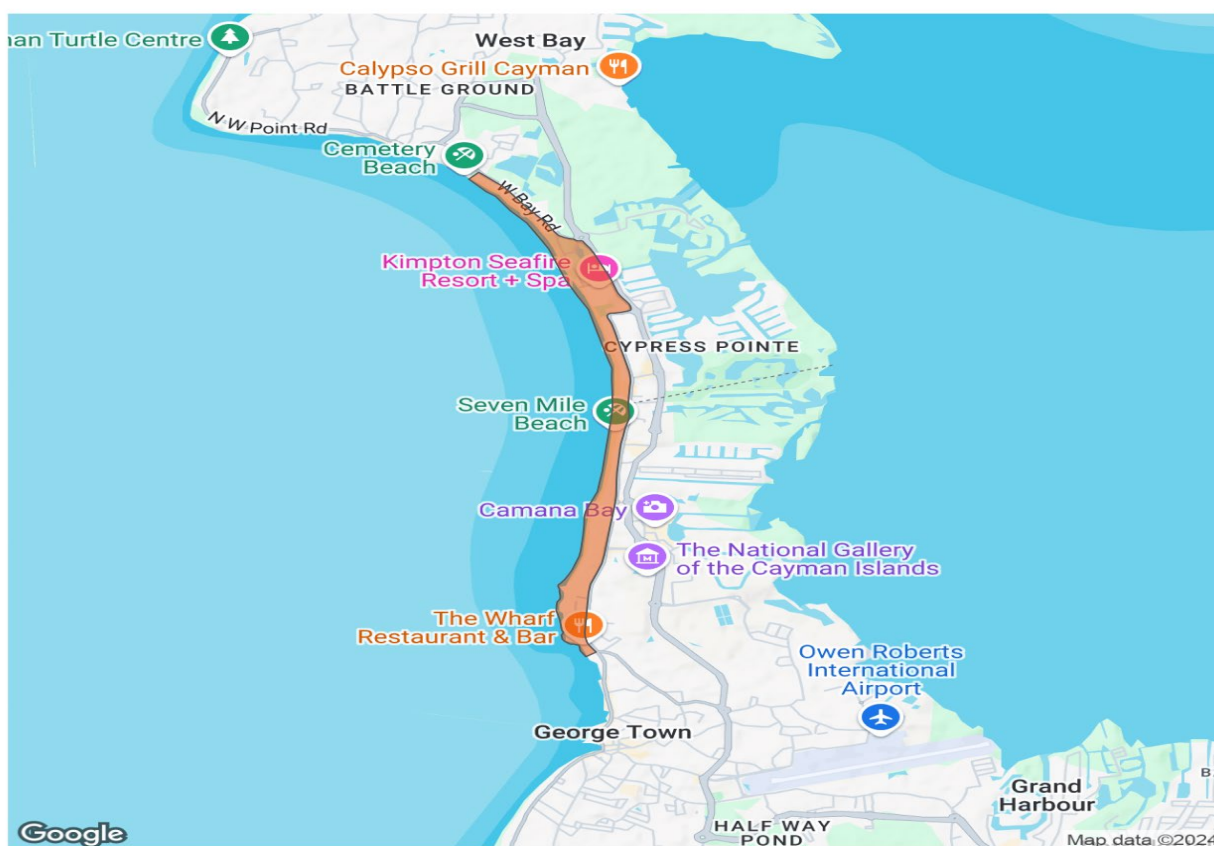
16. **For example, in the same location, sold on the same day and at the same price, one property might have 1,000 square feet, while the other one has 100 square feet.** In this case, the 1,000 square feet property is kept while the 100 square feet property is discarded. Likewise, any group transactions are discarded where the square footage was identical (since this likely refers to the sale of two condominiums) – or where the group size was larger than two. Likewise, should transactions not have been in the same location, or not on the same day and at the same price, these are discarded, too. The price per square foot was then reassessed as the consideration value for the condominium including the parking per square foot of the condominium alone. The mission tested including an indicator for group transactions, i.e., whether the condominium has parking (sold with it), in the hedonic regression model but the results were unsatisfactory so that it was left out.

17. **The mission also looked into whether transfers of leases rather than transfers of land, where the transfer refers to a leasehold instead of a freehold, could be added.** However, though the transfers could be readily filtered, the cases that could be identified lacked critical variables for the hedonic regression model. As a consequence, transfers of leases remain excluded from the index compilation for the time being.

Defining Seven Mile Beach geo-spatially

18. **The Seven Mile Beach indicator was created during the previous mission based on an explicit list of parcels where condominiums were sold in the defined stretch west of West Bay Road.** However, this is not the most efficient way of defining the analytical district since this list would need to be frequently updated as well as parcel numbers might change over time (and the current list was restricted to condominiums). Instead, the definition of Seven Mile Beach lends itself to geo-spatial fencing. All that is needed is a polygon that defines Seven Mile Beach geo-spatially and the centroid, a point, of each parcel being transacted. Then a simple spatial join can confirm whether a parcel is within Seven Mile Beach, i.e., whether the point is within the polygon.

19. **The analytical district is defined as the parcels to the west of West Bay Road from Cemetery Beach to the intersection at Eastern Avenue.** The corresponding 4.5-mile stretch on West Bay Road is highlighted in the map below.



20. **A note on using the geo-spatial information for creating e.g., distance measures or travel times is due.** While this would have been possible, the model already performed remarkably well with including coarser geographic information, in particular the analytical section within the analytical district as well as the parcel view. The analytical section has been used as a further geographical breakdown in the hedonic regression model but not in the published indexes. In the George Town analytical district, for example, this showed that Spots is less preferable than most other parts of George Town, most likely related to travel times to the city center. Likewise, a group variable for the parcel view has been used in the hedonic regression model. Not surprisingly, across analytical districts, parcels that are classified as beach front, beach view, or ocean front are preferable, most likely related to distance to the beach or ocean. As such, adding more geo-spatial indicators would not have added much explanatory power to the hedonic regression model, which is why no attempt at this was made.

Reviewing Internal Valuation Factors

21. **The LSD uses internal valuation factors in their reassessment of consideration values, e.g., for the location or the view.** The hedonic regression model serves as a tool to review these valuation factors but also to update them in the future. The dummies for analytical sections and the grouped parcel view reflect the (average) price level difference between each section and parcel view, respectively, and the reference (for which the coefficient is set to zero). If the coefficient is zero point two, for example, prices are, on average, $100 \times (\exp(0.2) - 1) = 22$ percent higher than in the reference.

22. **After discussion with the LSD, Rum Point, which is part of the North Side district and thus the Other Cayman Islands index, has been singled out in the hedonic regression model too (though not as a separate index).** Rum Point is a tourist location, somewhat similar to Seven Mile Beach. Hence, the hedonic regression model for the Other Cayman Islands index now includes a dummy for Rum Point and the

rest of the North Side district rather than a single dummy for the entire North Side district. As expected, Rum Point is more preferable than the remaining parts of the North Side district, reflecting (on average) higher prices.

23. **Likewise, the coefficient on the natural logarithm of square footage is the elasticity of consideration values.** If the coefficient is zero point seven, for example, prices increase by zero-point seven percent if floor area increases by one percent (and vice versa). As such, the price per square foot decreases by zero-point three percent in this scenario.

B. ASSESSMENT OF LAND AND HOUSES DATA

Suitability of Data on (Undeveloped) Land

24. **Unlike in many countries, land is on par with the number of transactions of condominiums.** For undeveloped land, the assessment showed that this extension of the scope would be relatively straightforward. The data processing would be very similar to that for condominiums with the exception that there is no grouped variable for the combination of the number of floors and the lowest floor. Notably, the data would likely allow to break down the Cayman Islands by administrative districts, producing separate annual indexes for the parts of the islands that are combined into one index in the case of condominiums.

Suitability of Data on Houses

25. **For houses, however, more work would be needed before a reliable index can be compiled, mostly due to a lack of information on the footprint of the buildings.** To this end, a separate data set was produced by the LSD that includes additional information about the building. There are two size variables, one referring to the size of the parcel and the other to the footprint of the building. In addition, another variables reports the number of stories of the building. A reasonable approximation of the area of the house would thus be:

- $\text{Area of the house} = \text{Footprint of the building} \times \text{Number of stories}.$

26. **This could then be compared to the size of the parcel and also be used in the hedonic regression model.** An initial assessment did not deliver reliable results of either the ratio of area of the house to size of the parcel or the hedonic regression model and the implied indexes. Further research is needed to build an index for houses, in particular regarding the geometrical operations used in creating the separate data set.

C. DOCUMENTATION FOR DISSEMINATION

Press Releases

27. **The documentation for the dissemination includes a launch and regular press releases, a methods document as well as frequently asked questions.** The full drafts are to be found in Appendix II. The dissemination will further include the index time series in downloadable format as well as charts for visualizing the latest developments.

28. **The launch press release includes initial remarks that briefly introduce the new indexes as well as explain the cooperation with the IMF in developing the indexes.** The regular press releases will differ depending on whether quarterly results for George Town only will be published or the full release of annual indexes for the entire Cayman Islands (together with the quarterly George Town index).

29. **All press releases will highlight key findings in terms of price changes against the previous year (and quarter).** The LSD will also integrate their report of number of transactions, value of transactions, and average consideration for all property types leading the indexes by one quarter. The annual press releases will provide more detailed information on property prices by region as well as historical trends since the reference period.

Methodological Note

30. **The methodological note introduces the various aspects of the index compilation in a non-technical manner.** Starting from the definition of the indexes, the scope of the index is explained. Stratification is a very relevant facet of the Cayman Islands index/market since Seven Mile Beach has been singled out, proxying (foreign) investments. Periodicity is an equally relevant feature since the George Town index is produced quarterly and is very relevant for the local market.

31. **Further, the choice of the reference year 2015 is justified as marking the end of an extended period of prices remaining mostly flat.** The data sources are elucidated in more detail as stamp duty data and the property characteristics included therein. Next, the data processing, filtering out-of-scope observations and outliers, is described. Quality adjustment using hedonic methods is put in plain words. So is the need and for data smoothing of the quarterly George Town index. Finally, the aggregation of indexes is explained as well as the publication schedule spelled out.

32. **The LSD might want to add further details prior to the publication on the additional indicators already being released every quarter.** The number of transactions, value of transactions, and average consideration for all property types currently go through a manual check of the database and this was out of the scope of this mission to review or to automate that process. In addition, a message to the public should be added.

Frequently Asked Questions

33. **The frequently asked questions document should be considered a “living” document and recurring questions be added for reference of users of the indexes.** In the initial version, the document will answer

- Why the LSD launches an RPPI,
- What additional data will be available,
- What property-mix (or quality) adjustment means,
- What data sources are used,
- Why the RPPI yet covers condominiums only,
- Why Seven Mile Beach has been singled out,
- Why the George Town is quarterly, but the rest is annual,
- What the difference between the index and the averages previously published is, and
- Why the quarterly George Town is smoothed.

34. **This document will provide a quick orientation for (new) users but also link to the more detailed methodological note as well as provide a contact at the LSD to get in touch with specific questions.**

D. OFFICIALS MET DURING THE MISSION

Name	Institution	Position
Uche Obi	LSD	Director
Andrew Nyabwa	LSD	Valuation Officer

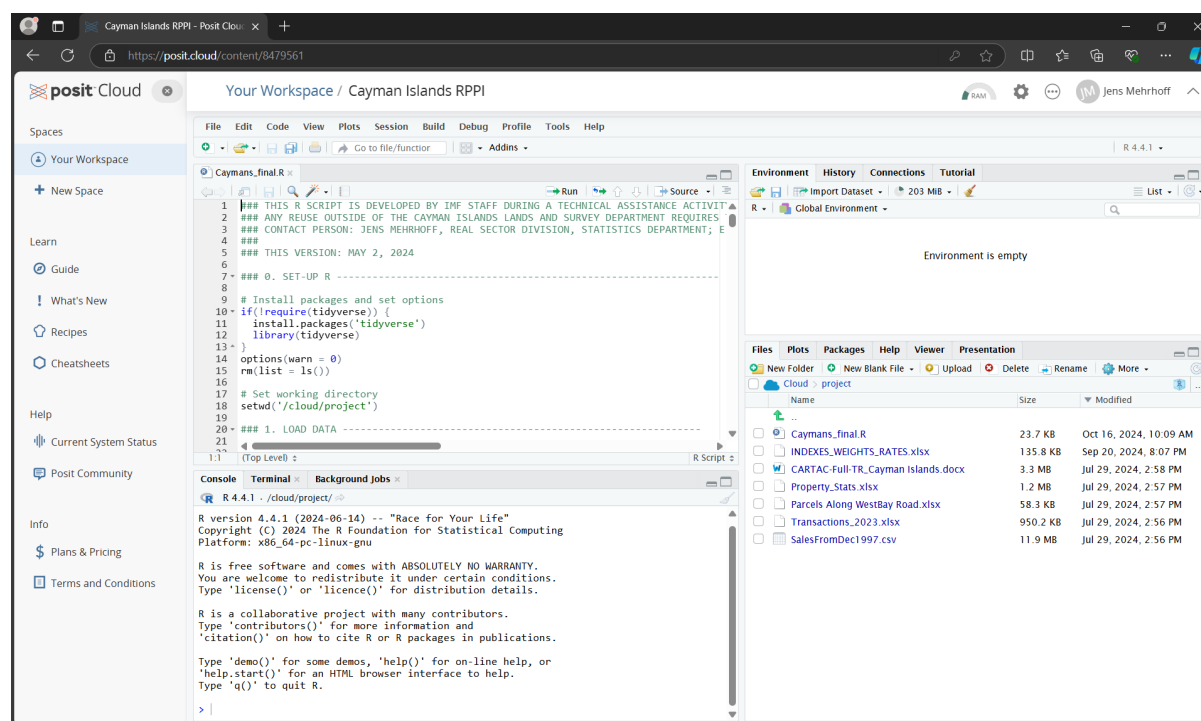
Appendices

E. APPENDIX I. DOCUMENTATION ON USING R IN THE CLOUD

R Script Plus Files

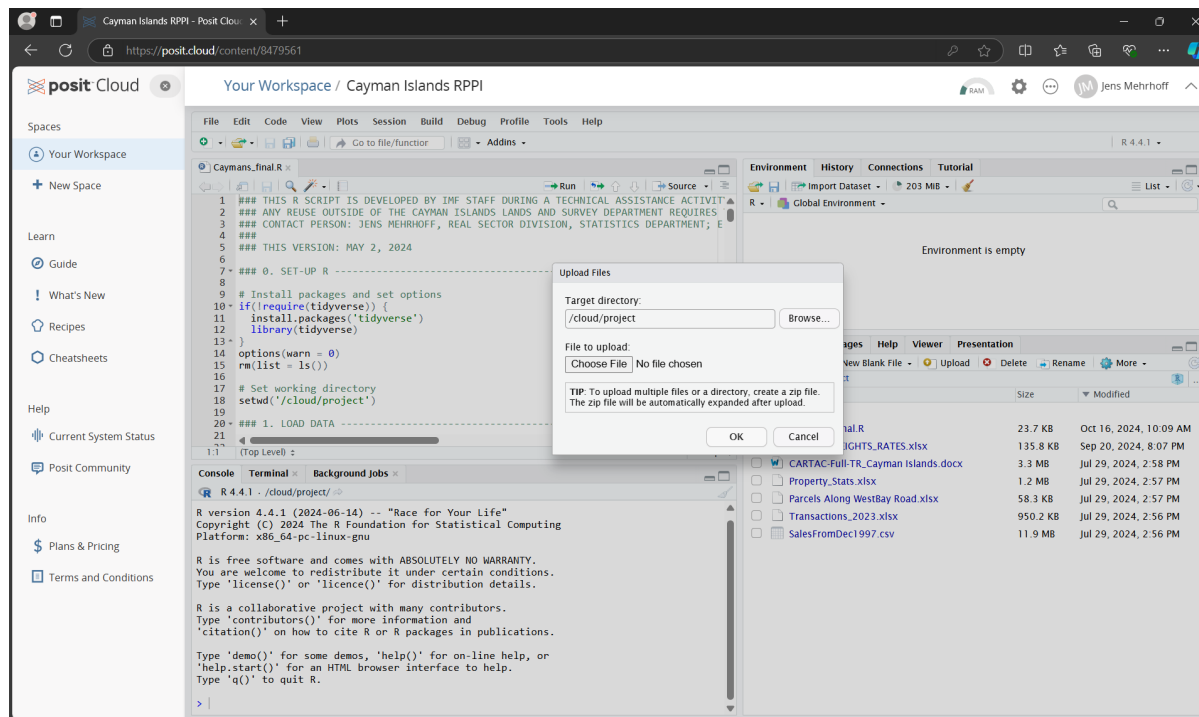
35. After signing up for free at <https://posit.cloud/>, the project on the Cayman Islands RPPI can be accessed at <https://posit.cloud/content/8479561>. Here, you will find the R script “Caymans_final.R” along with the associated files:

- data from 1998 to 2022 and for 2023, “SalesFromDec1997.csv” and “Transactions_2023.xlsx”, respectively.
- Seven Mile Beach indicator “Parcels Along West Bay Road.xlsx”
- Microsoft Excel file based on the R output “INDEXES_WEIGHTS_RATES.xlsx”; and
- the Technical Assistance Report (TAR) “CARTAC-Full-TR_Cayman Islands.docx”.



Upload New Data

36. The bottom right “Files” panel allows to “Upload” new data. The corresponding file can be selected in the dialog that appears via “Choose File”.

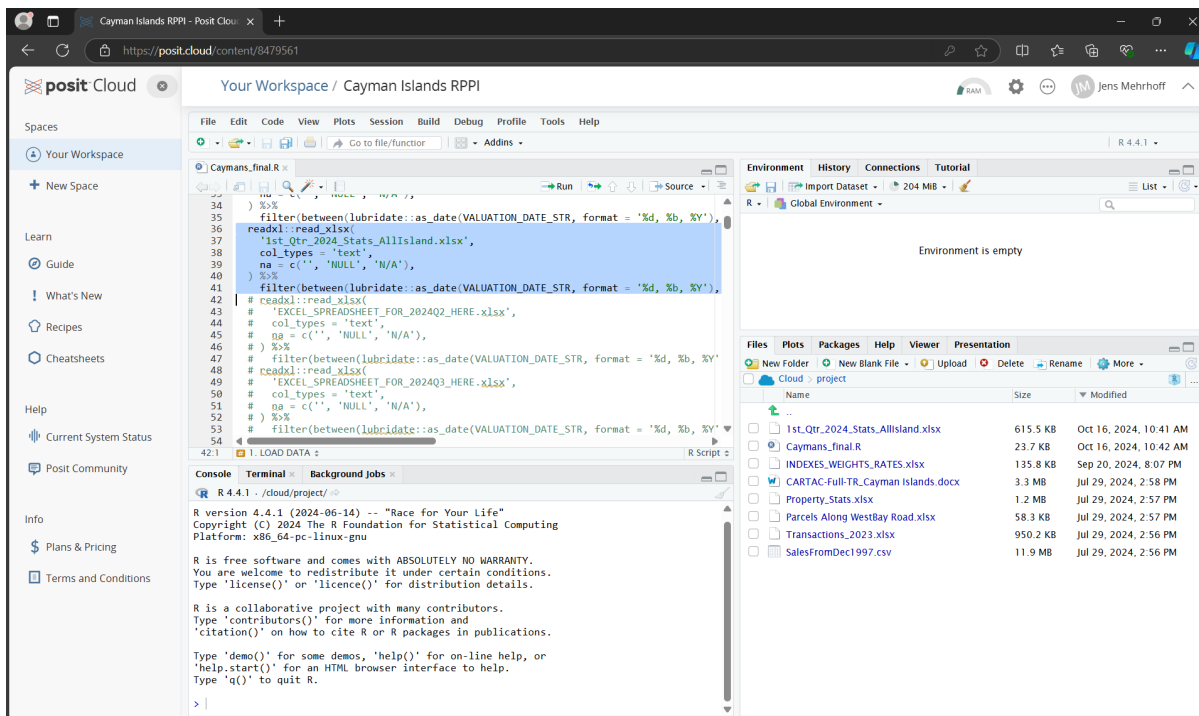


The LSD needs to extract data from the SQL database using the same query – that should be saved somewhere – every quarter and save the file in the same folder as the code and the other files (and apply some self-explaining naming convention, including the quarter and year to which the extract pertains). This also means including the entire Cayman Islands data in the quarterly data retrieval, even though except for George Town the index frequency is annual. The first row should contain the variable names. For consistency, the output should be stored as Microsoft Excel files, but nothing should be manipulated further.

To avoid revisions because of reports arriving even beyond that date, it is recommended to not update the database extracts after these have been used in the production and publication of price indexes. These revisions should not be material but would distract users.

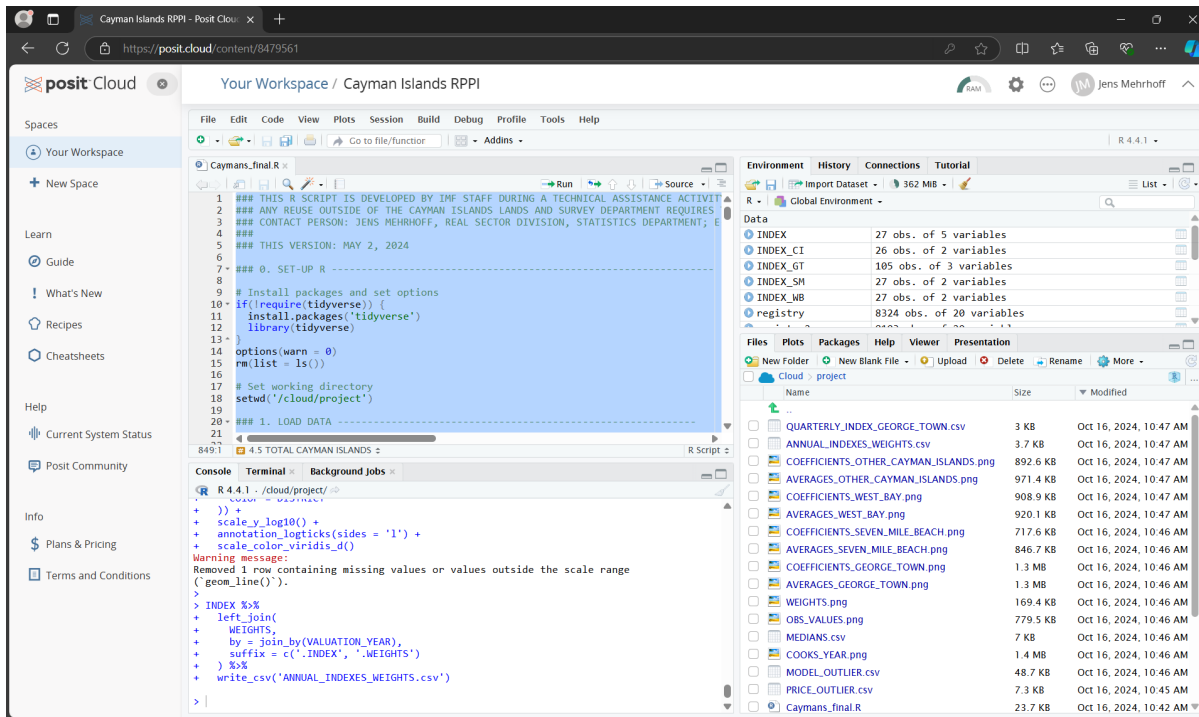
already contains placeholders for updating the databases with the extracts for 2024, restricting the provided data to cover only the quarter in question. The text is filled out with hashtags (“#”) that need to be removed should a new quarter be read in. The “Quarter” part (e.g., for 2024: Q1 lines 36–41). Further, the filenames of the Excel spreadsheets are given here “1st_Qtr_2024_Stats_AllIsland.xlsx”, assuming these are stored in the same

sure that the “filter” part is correctly assigned, i.e., for 2024: Q1, it should read `2024:Q1`. Note that the code has been updated during the November 2024 mission comparison to more clearly highlight that very part. Moreover, placeholders for 2025 have been added to the TAR of the November 2023 mission after the first block of loading the data are made (placeholders for the four quarters of 2025 with six lines of code each).



Run Script

39. Select the entire code in the top left “Source” panel, e.g., by pressing Ctrl and A, and click run. Note that this might take several minutes.

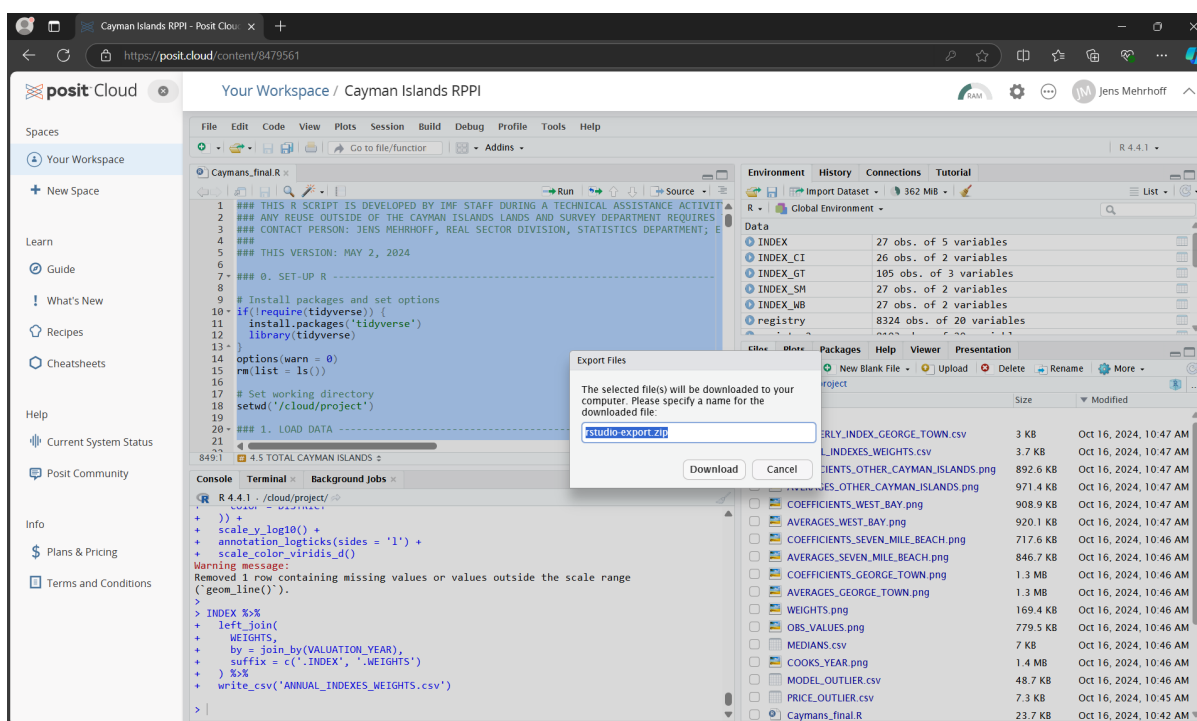


Download Output

40. Again, the bottom right “Files” panel allows to “Export...” the results if one selects the files to export first (by ticking the box to the left of the file name) and then clicks on “More”. The files that are required for the Microsoft Excel spreadsheet “INDEXES_WEIGHTS_RATES.xlsx” to compile the total Cayman Islands index as well as the visualizations for the indexes and year-on-year rates of change are “QUARTERLY_INDEX_GEORGE_TOWN.csv” and “ANNUAL_INDEXES_WEIGHTS.csv”.

41. The downloaded compressed folder should be unzipped into the project folder, i.e., together with the Microsoft Excel spreadsheet.

42. The Technical Assistance Report lists all files produced by the R code along with their description – these outputs should be reviewed every time as well in order to check the consistency of the data and the model.



Prepare the Index for Dissemination

43. It is important that the two CSV files are open in Excel before(!) the Excel spreadsheet itself is opened. **It will be necessary to instruct Excel where to find these two R outputs so that the calculations and visualizations run properly.**

44. **First click “Enable Editing”, then “Enable Content” in the warning bar at the top.** Then Excel will warn that links in the workbook could not be updated, press “OK” twice. You will need to manage the workbook links manually by going to both tabs “QUARTERLY_INDEX_GEORGE_TOWN” and “ANNUAL_INDEXES_WEIGHTS” and replace “C:\Users\jensm\Downloads\” with nothing. To this end, press Ctrl and H, only fill in the “Find what:” part with the before file location (without the double quotes), and press “Replace All”, then “Close”. (Warnings about zero values can be ignored, simply press “OK”.) Save the Excel file; the next time you open it, these steps should not be needed again.

Quarter	George Town Index	Rate (year-over)
2016:Q2	100.7	-0.5
2016:Q3	101.2	1.3
2016:Q4	100.6	2.5
2017:Q1	103.8	4.1
2017:Q2	104.3	3.6
2017:Q3	106.7	5.4
2017:Q4	110.8	10.1
2018:Q1	115.1	10.9
2018:Q2	121.2	16.1
2018:Q3	128.7	20.6
2018:Q4	134.9	21.8
2019:Q1	141.1	22.6
2019:Q2	146.4	20.8
2019:Q3	146.8	14.0
2019:Q4	150.3	11.4
2020:Q1	154.5	9.5
2020:Q2	153.6	4.9
2020:Q3	155.3	5.8
2020:Q4	160.2	6.6
2021:Q1	165.5	7.1
2021:Q2	175.0	14.0
2021:Q3	184.0	18.5
2021:Q4	195.0	21.8
2022:Q1	200.8	21.3
2022:Q2	208.2	19.9
2022:Q3	216.9	17.9
2022:Q4	227.8	16.8
2023:Q1	245.4	22.2
2023:Q2	242.7	16.6
2023:Q3	235.6	8.6
2023:Q4	237.4	4.2
2024:Q1	239.3	-2.5
2024:Q2	0.0	#N/A
2024:Q3	0.0	#N/A
2024:Q4	0.0	#N/A

45. **Further note that the annual indexes would be updated even if there is only a single quarter of data.** It is up to the user to make sure only the relevant information will be published, this also includes zeros for quarterly values that are not yet available, i.e., the publication for now should include only 2024:Q1 and 2023, respectively – simply delete the irrelevant lines from the below created CSV file before publication.

46. **In addition, it is not recommended to publish this file outright but to create an excerpt with rounded values (e.g., one decimal) rather than formulas, or even better put the results in a database.** The spreadsheet includes a tab from which a copy can be saved as a CSV file for dissemination: File – Save As – Save as type: “CSV (Comma delimited) (*.csv)”; click “OK” when the Excel warning to save only the active sheet appears (and for any other warnings too).

Appendix II. Draft Documentation for Dissemination

Residential Property Price Index 4th Quarter of 2024 and 2024

47. **The Lands and Survey Department (LSD) has announced the launch of a new Residential Property Price Index (RPPI) for the Cayman Islands on (x April 2025).** This index encompasses all condo transactions and offers a more precise measurement of price changes compared to previous methods based on simple averages. Accompanying the launch is a technical paper that outlines the methodology for the new index. [LINK] For more details, refer to the Frequently Asked Questions. [LINK]

48. **The indexes were developed in close collaboration with the Statistics Department of the International Monetary Fund (IMF) during three missions in March and November of 2023 and November of 2024, funded by the IMF’s Caribbean Regional Technical Assistance Centre (CARTAC).** The methodology adheres to international best practices.

49. **[LSD/CIMA: Add message to the public.]**

50. **The Lands and Survey Department (LSD) has also released the Residential Property Price Index (RPPI) for the Cayman Islands, covering all condo transactions for the 4th quarter of 2024 and the entire**

year of 2024. The Residential Property Price Index for condos in George Town rose by four-point two percent over the four quarters leading up to the 4th quarter of 2024 and saw a zero point eight percent increase compared to the previous quarter. Nationally, the Residential Property Price Index for condos increased by nine-point one percent in 2024, with prices in George Town rising by an average of 12.6 percent over the year.
[annual, only]

Key Findings

- The Residential Property Price Index for condos in George Town rose by four point two percent over the four quarters leading up to the 4th quarter of 2024 and saw a zero point eight percent increase compared to the previous quarter.
- Nationally, the Residential Property Price Index for condos increased by nine point one percent in 2024, with prices in George Town rising by an average of 12.6 percent over the year.
- [LSD: Add number of transactions, value of transactions, and average consideration for all property types – 2025: Q1]

A table of price indexes by district is available. [LINK, incl. George Town quarterly]

[ADD figures/tables with indexes/growth rates, incl. George Town quarterly]

Property Prices by Region [Annual, only]

51. In 2024, condo prices in George Town increased by 12.6 percent, while prices in West Bay rose by three-point nine percent. On Seven Mile Beach, prices went up by five point four percent. The other districts of the Cayman Islands experienced the largest price increase at 14.4 percent.

Historical Trends [Annual, only]

52. Since 2015, condo prices nationally have surged by 181.8percent. Prices in George Town have risen by 140.3 percent, while prices in West Bay are 138.3 percent higher. Seven Mile Beach has seen a 240.3 percent increase. The other districts of the Cayman Islands have experienced a 118.1 percent rise.

Additional Indicators

[LSD: Integrate Real Estate Report Q1, 2025]

Further Information

- Methodological Note: [LINK]
- Frequently Asked Questions: [LINK]
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Methodological Note

Definition

53. **The Residential Property Price Index (RPPI) is designed to measure changes in the average prices paid for residential properties sold in the Cayman Islands.** The index is mix-adjusted to account for the fact that different types of properties are sold at different times.

Scope

54. **The RPPI includes all market purchases of condominiums, whether cash or mortgage funded.** Non-market transactions, such as family transfers and group transactions, are specifically excluded from the index. Currently, the index does not cover house purchases. Also excluded are self-builds, where the land is purchased separately, and undeveloped land.

Stratification

55. **Analytical districts were derived from the administrative districts representing the geographical breakdown of the published indexes:**

- Seven Mile Beach: Parcels to the west of West Bay Road from Cemetery Beach to the intersection at Eastern Avenue are singled out from the administrative districts of West Bay and George Town. These areas are considered unique as they primarily consist of holiday homes.
- George Town: The administrative district of George Town, excluding the analytical district of Seven Mile Beach. This includes properties to the east of West Bay Road within the Seven Mile Corridor.
- West Bay: The administrative district of West Bay, excluding the analytical district of Seven Mile Beach. This includes properties to the east of West Bay Road within the Seven Mile Corridor.
- Other Cayman Islands: The administrative districts of Bodden Town, East End, and North Side, as well as Cayman Brac and Little Cayman. Grouping these districts into one analytical district increases the number of observations, enhancing the reliability of estimates.

56. **Seven Mile Beach has been singled out as a good proxy for (foreign) investments.** A study of charges that occur when a mortgage is filed in the domestic banking system indicated that Seven Mile Beach has disproportionately few charges filed, both in terms of the number of transactions and the sum of the consideration value. This shows that most transactions in Seven Mile Beach are either cash transactions or foreign financed, making it a good proxy for (foreign) investments.

57. **George Town, on the other hand, has a consistently high share of charges filed with the transfer of land, making it a very relevant indicator for the local market.**

Periodicity

58. **The RPPI for George Town is compiled and published quarterly.**

59. **The national RPPI and regional sub-indexes are compiled and published annually.** The annual price index for George Town is derived from an average of the four quarterly indexes in a given calendar year.

Reference Period

60. **The reference period for the RPPI is the year 2015.** Therefore, the RPPI answers the question: how much would it cost on average to purchase the same set of dwellings sold in 2015 in any given quarter or year? The annual (average) index for 2015 is set to 100, and all preceding and subsequent price movements are expressed relative to this reference.

61. **The year 2015 was chosen as the reference year because it marks the end of a longer period where the Cayman Islands market moved sideways, and particularly Seven Mile Beach experienced higher-than-average price increases since.**

Data Sources

62. **The data source for the RPPI is stamp duty data collected by the Lands and Survey Department (LSD) of the Cayman Islands Government.** Stamp duty relates to immovable property (real estate) in accordance with the Stamp Duty Law (2019 Revision).

63. **The stamp duty data provides rich information, including the location of the property, the sales price and date, the floor area, the parcel view, and the floor number, as well as the number of floors.**

Data Processing

64. **The first step in using stamp duty returns as a basis for a house price index is to separate transactions of residential dwellings from other real estate transactions.** A wide variety of real estate transactions are liable for stamp duty, including commercial property and land sales. A stamp duty return is considered a relevant residential dwelling transaction if the property meets the following criteria:

- Refers to the transfer of (developed) land.
- Is not a group transaction, i.e., is a single-property transfer.
- Is measured in square feet (see below for property types).
- Has not been re-assessed, i.e., the consideration is reflective of market value.
- Refers to condominiums on strata (no houses or land at this moment).
- Has a value for the parcel view (used for the mix adjustment).
- Is at least on the first floor (American system, ground floor in the British system).

65. **Excluded were considerations that were not reflective of market values of the entire property where use was made of the recently closed tax loophole, i.e., where stamp duty was payable only on the land but not the building.**

66. **Further, outliers have been removed via a statistical approach, also capturing data errors.** One major advantage of this approach is that it depends on the distribution of the actual data, i.e., if there is a widespread, observations further away from the “middle” are not deleted automatically, while if the spread is narrower, this approach will identify observations more easily as outliers.

Quality Adjustment

67. **Residential properties are heterogeneous, meaning that no two houses or condos are exactly identical.** This poses a challenge when constructing a price index, as there is a need to separate pure price change from differences in the quality and mix of the properties being bought over time. Typically, this is done by comparing the prices of exactly the same products over time. For example, this method is used in the Consumer Price Index, where a fixed basket of consumer goods is re-priced every month. However, in the case of residential properties, price is determined by many characteristics (location, size, dwelling type, etc.), making direct price comparisons difficult. Furthermore, only a small portion of the total housing stock is sold in any given quarter or year. The combination of these factors means that the price comparison process typically used to calculate a price index cannot be used for houses and condos.

68. **The hedonic method is the prevalent statistical process for measuring changes in residential property prices.** In this method, transactions over two or more successive periods are pooled, and the characteristics that influence price (dwelling size, geographical location, parcel view, and floor number/number of floors) are analyzed, and their relative contributions to the overall price are estimated. By excluding the price change determined by these characteristics independently, we are left with a pure price change for a consistent set of characteristics from one time period to another, which is then used to construct the price index.

69. **Neither average nor median prices are appropriate for measuring the evolution of property prices, as the mix of dwellings sold in different periods can change over time.** The Residential Property Price Index is the definitive measure of property price trends.

Data Smoothing

70. **As the number of transactions used in the price model decreases, the volatility or statistical “noise” of the resulting price index increases.** This noise can make it very difficult to identify turning points in the residential market in a timely manner and represents a dilemma in price index modeling. On the one hand, it is desirable to restrict price indexes to sufficiently large volumes of transactions to minimize the noise. On the

other hand, there is a competing demand from users for price indexes at ever-increasing levels of disaggregation. A balance needs to be struck between these conflicting objectives. Data smoothing helps optimize this balance.

71. **George Town is the only analytical district estimated at a quarterly frequency.** The simple reason behind this choice is that George Town has enough observations to reliably construct a quarterly index, while the other analytical districts do not. Still, the quarterly results exhibit some noise, which is why further smoothing is applied to the estimated index series. In particular, (non-seasonal) double exponential smoothing, also known as Holt-Winters filtering, is applied.

Aggregate Indexes

72. **The (annual) national RPPI is calculated using the chain-linked Laspeyres method.** Firstly, price relatives with respect to the previous year are calculated for each district index. The price relatives for the aggregate index are computed by weighting the price relatives of their constituent district indexes, i.e., the price relative for the national RPPI is a weighted average of the four district indexes. The value of the aggregate index is then computed as a product of its price relative above and its value in the previous year.

73. **The RPPI uses relative weights, calculated as the ratio of the value of the purchases of residential properties in the corresponding district to the total value in the country during the previous three years (to account for some volatility in the annual value of purchases).** The weights are updated every year to reflect changes in the market structure. The weights remain broadly consistent over time; however, variations are not insignificant.

Publication & Revisions

74. **The legal deadline for submitting a stamp duty return is within 45 days from the date of execution.** The progressive nature of stamp duty returns poses challenges for the compilation of the RPPI. In principle, the optimum price index is produced by waiting until effectively all returns have been made for a particular quarter or year. In practice, users require timely information on house price developments, and delaying publication for several months is not acceptable.

75. **To resolve this dilemma, the RPPI is published with a three-month lag, e.g., for the fourth quarter of 2024 and the year 2024, in early April 2025. Quarterly releases will occur each year in July, October, and the following January, with the annual releases in April of the following year.** The RPPI is not recompiled or revised and is typically considered final.

Frequently Asked Questions

Why is the Lands and Survey Department (LSD) launching a Residential Property Price Index (RPPI)?

76. **Reliable property price indexes and other indicators of real estate markets are critical for policymakers to assess the state of the real estate market and its potential impact on macroeconomic and financial stability.** Rapid increases in property prices may indicate the presence of a bubble that increases vulnerabilities in the financial system, while rapid decreases in property prices could signal an impending recession as households and businesses cut consumption and investment. The indexes are also used by policymakers as an input into the design of macroprudential policies (i.e., policies aimed at reducing systemic risks in the financial sector) and to evaluate the effectiveness of monetary policy transmission.

77. **[LSD/CIMA: Add message to the public.]**

What additional data is now available?

78. **The RPPI is designed to measure changes in the average prices paid for residential properties sold in the Cayman Islands.** The index is mix-adjusted to account for the fact that different types of properties

are sold at different times. It covers all market purchases of condos, both cash and mortgage funded. Currently, it does not cover house purchases.

79. **The geographical breakdown of the published indexes includes Seven Mile Beach, George Town, West Bay, and the other districts combined into one.** The RPPI for George Town is compiled and published quarterly. The national RPPI and regional sub-indexes are compiled and published annually.

What does it mean that the RPPI is “property-mix adjusted”?

80. **The new RPPI is a constant-quality price index.** This means that it aims to measure the pure price change over time, independent of any changes in the physical or locational mix of properties transacted in a given quarter or year. The Consumer Price Index (CPI) measures the prices of exactly the same products every month. However, this is not possible with residential property as a different mix of properties is transacted every month. This problem is solved by employing statistical regression methods to account for the physical and locational differences and isolate the price change on a constant-quality basis.

What data sources are used to produce the RPPI?

81. **The new RPPI makes innovative use of stamp duty returns.** The data collected includes the price and date of the residential property transactions as well as the characteristics of the properties. This illustrates the potential for obtaining new statistical insights, at an aggregate level, from administrative records.

Why does the RPPI cover only condos and neither houses nor (undeveloped) land?

82. **Condos, compared to houses, have higher numbers of purchases, allowing for an index to be estimated more easily; the number of transactions of condos is about double that of houses.** In particular, for condos, it was possible to produce a quarterly index for George Town, which is considered a very relevant indicator for the local market. Likewise, it was possible to single out Seven Mile Beach, which is a good proxy for (foreign) investments. For houses, the price model performance was not deemed satisfactory at this stage since additional property characteristics, primarily the floor area, would need to be compiled. In this sense, condos were the “low-hanging fruit.”

83. **That being said, the LSD is investigating broadening the scope of the RPPI to include both houses and (undeveloped) land, but a publication of these numbers is currently not foreseen.**

Why has Seven Mile Beach been singled out, and why are the districts other than George Town and West Bay combined into one?

84. **Seven Mile Beach has been singled out as a good proxy for (foreign) investments.** A study of charges that occur when a mortgage is filed in the domestic banking system indicated that Seven Mile Beach has disproportionately few charges filed, both in terms of the number of transactions and the sum of the consideration value. This shows that most transactions in Seven Mile Beach are either cash transactions or foreign financed, making it a good proxy for (foreign) investments. George Town, on the other hand, has a consistently high share of charges filed with the transfer of land, making it a very relevant indicator for the local market – for which price indexes are even available quarterly.

85. **Bodden Town, East End, and North Side, as well as Cayman Brac and Little Cayman, were grouped into one for a greater number of observations, increasing the reliability of estimates.** The number of purchases of condos in these districts was too limited to enable regional sub-indexes for each of them.

Why is the RPPI for George Town compiled and published on a quarterly basis but the national and regional sub-indexes are compiled and published annually?

86. **George Town is the only analytical district estimated at a quarterly frequency.** The simple reason behind this choice is that George Town has enough observations to reliably construct a quarterly index, while the other analytical districts do not. Still, the quarterly results exhibit some noise, which is why further smoothing is applied to the estimated index series (see Q&A on smoothing).

What is the difference between the average consideration value and the new RPPI?

87. **In statistics, various measures allow us to represent the characteristics of a group.** The characteristics of interest could be, for example, the ages of a group of people, the wages of a group of workers, or the price of a group of houses. One of the most commonly used statistical measures is the mean (the “arithmetic mean” to be precise, but more often simply termed the “average”). The mean is the sum of the characteristics of the group (e.g., ages, wages, or prices) divided by the number in the group.

88. **However, neither average nor median prices are appropriate for measuring the evolution of property prices as the mix of dwellings sold in different periods can change over time.** The Residential Property Price Index is the definitive measure of property price trends.

Why is the quarterly RPPI for George Town smoothed?

89. **The Cayman Islands’ residential property market is relatively small and heterogeneous.** This creates challenges in measuring house price inflation, particularly in a quarterly index such as for George Town. It leads to considerable variability in the index from quarter to quarter. Therefore, the actual price change in any given month may not reflect the underlying price trend.

90. **To better reflect both the trend and the latest price developments, the LSD applies data smoothing to the quarterly RPPI for George Town.** Properly applied, data smoothing both emphasizes the trend and leads to an earlier identification of market turning points. Additionally, data smoothing improves the quality of the RPPI, providing an accurate measure of both the short and long-term developments in house price inflation and enabling a high-frequency index that would otherwise be too volatile to publish.

Where can I get further information?

91. **Methodological Note:** [\[LINK\]](#)

92. **Email:** [\[LINK\]](#)