



Title: Tableau Dashboard Project

**Business Intelligence Case Study: Melbourne Housing
Market**

Prepared by: Jose De Leon
Data Analyst | Business Intelligence |

June 27, 2025

Introduction

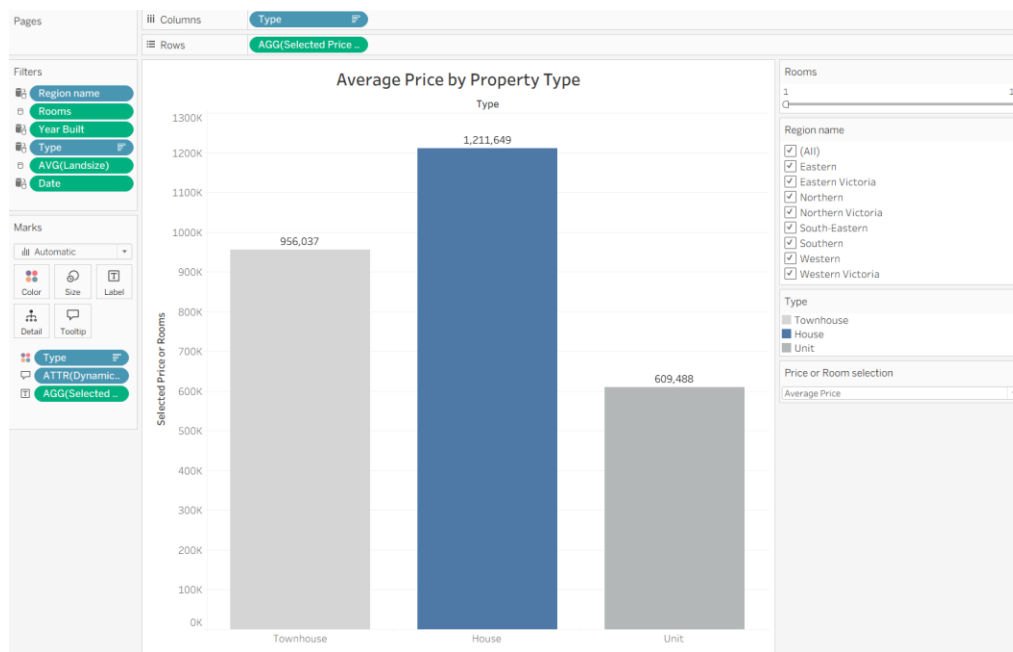
This project presents a comprehensive exploration of the Melbourne housing market, leveraging Tableau to extract actionable insights from property sales data. Through the integration of interactive visualizations, dynamic filters, and calculated metrics, the dashboard provides users with intuitive access to housing trends across property types, regions, land sizes, distances to the city center, and time. Tableau was chosen for its flexibility in parameter-driven storytelling, allowing users to seamlessly toggle between key metrics such as average price, price per square meter, and number of rooms. This empowers real estate stakeholders, analysts, and decision-makers to better understand spatial, temporal, and structural dynamics in the Melbourne real estate market.

Dashboard in Tableau

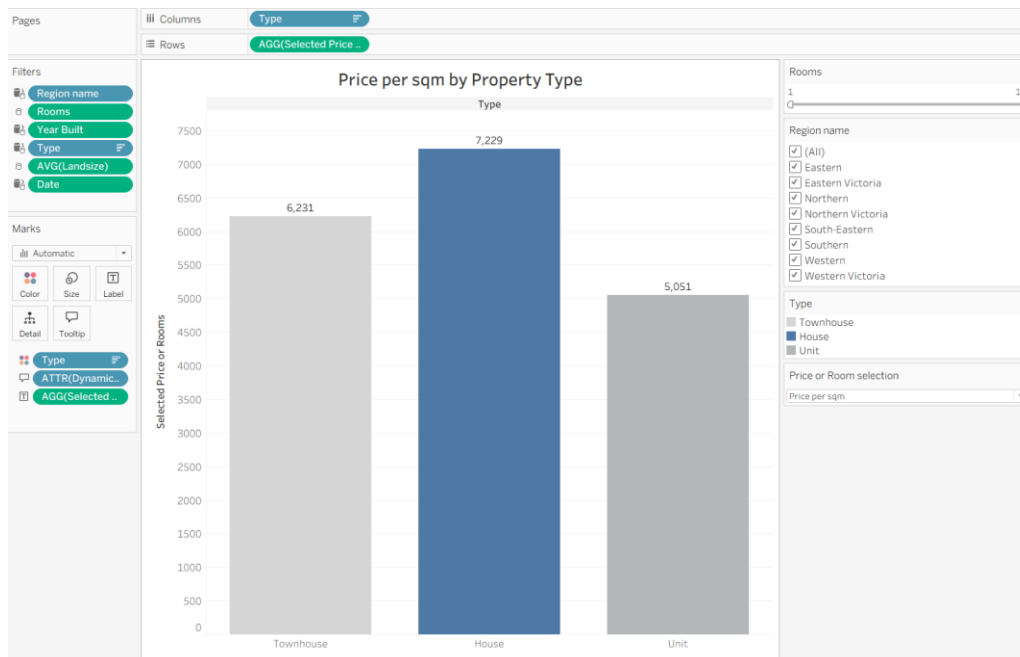
This interactive dashboard explores how housing prices and characteristics vary by property type, region, land size, distance to the center, and time. It uses a parameter to toggle between average price, price per square meter, and number of rooms, and dynamically adjusts titles and visuals accordingly.

Plot #1 based on Property type

In this first plot, a vertical chart, about price by property type we have the filter of rooms to use in order to filter how much the price will change based on the number of rooms. We can also filter by region and check how much the prices changes. Also, we can see that we have 3 types of houses where house is blue color, which is the one we want to focus our attention. Also, this visual as the rest of plots uses the parameter of price or room selection to change the visual from average price to price per square per meter and by last to select the number of rooms each property type usually have.



We can see here how the parameter is Working where now we are seeing the price per square meter by property type.



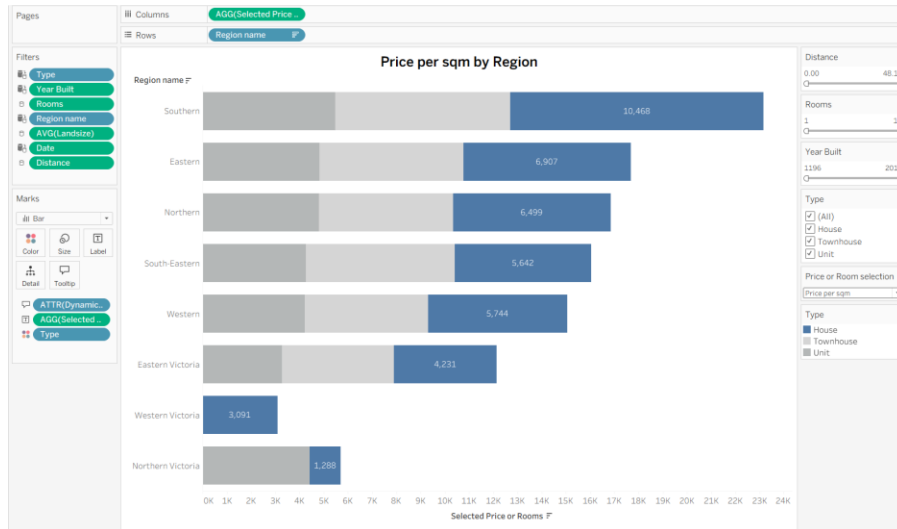
We observe that Houses have the highest average price and price per sqm across room counts.

Plot #2 by Region

In this second plot, a horizontal chart, we are seeing how the average price per square meter is present in the different regions. This second plot also uses the same parameter which gives the opportunity to select between price per sqm, average price and number of rooms. The intention of this parameter is to reflect the different information for each Region, so that we can have a better understanding of each region in different perspectives.



We can make some changes in the filters, in order to reflect that each filter is updating the information that is being reflected.



Southern region shows the highest price per sqm, possibly reflecting higher demand or limited land.

Plot #3 by Land Size

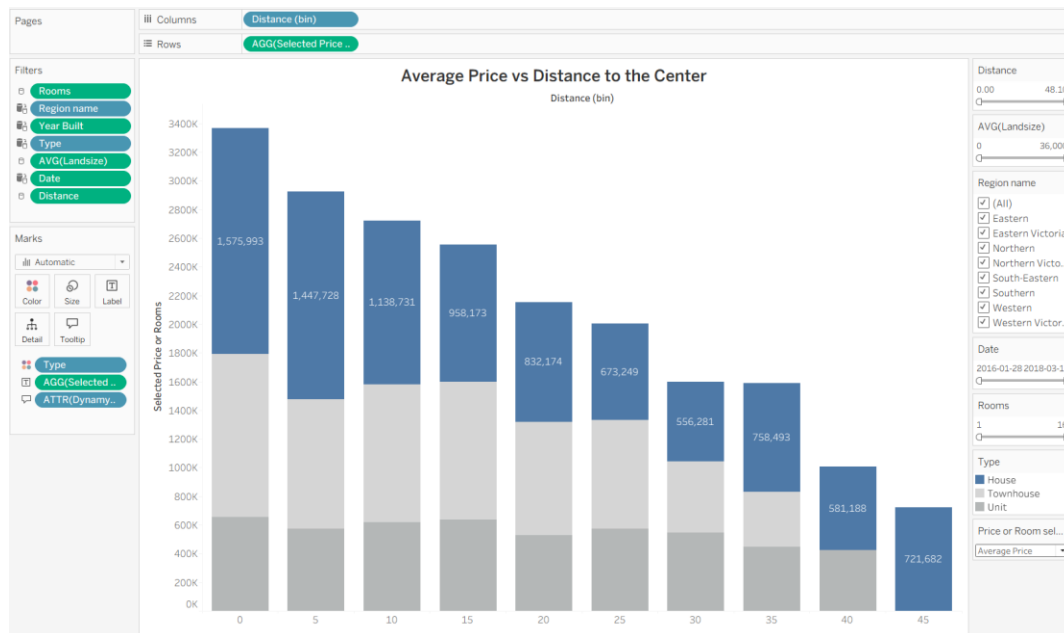
In the plot 3, a histogram, what we want to reflect is the information of the already mentioned parameter but now by land size. In order to understand how the average price of the different regions changes based on the size of the land, to check how the price per square meter changes based on the land size and also how the number of rooms in the houses changes based on the land sizes. As mentioned before, we have other filter that gives the opportunity to go beyond and filter by region, by land size and number of rooms.

Under these specific filters we can see, the number of rooms by land size and by type of house considering all regions and all types of houses. We can see that when the land size is less than 36000 square meters, regardless of the type of house most of them has no more than 3.5 rooms.

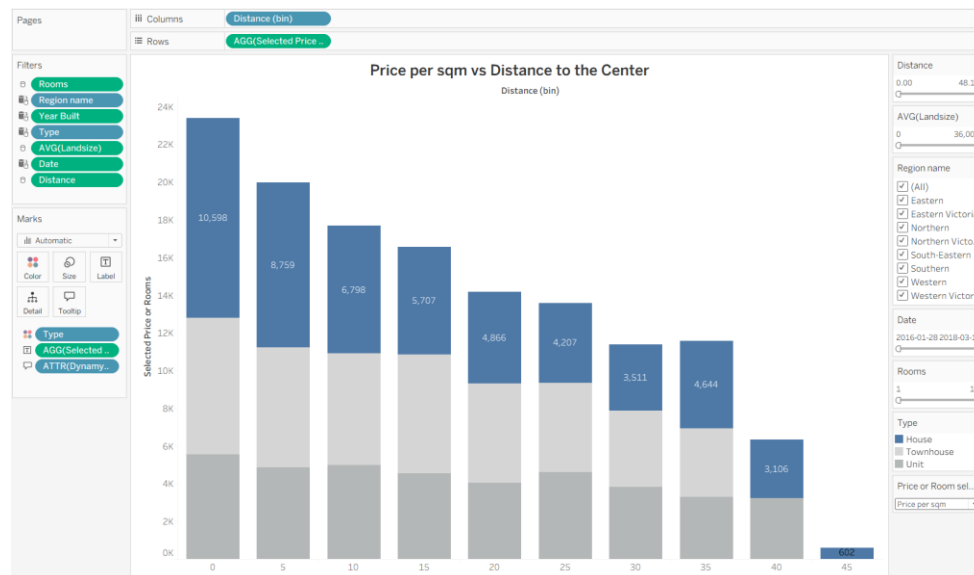


Plot #4 by Distance to the Center

In this plot, another histogram, we are analyzing the distance to the center based on the 3 different scenarios. Here we can see that the houses that are close to the centre have higher average price and as long we go further the centre, the house price decreases. A clear negative correlation is observed between distance and price, both in absolute and per sqm terms.

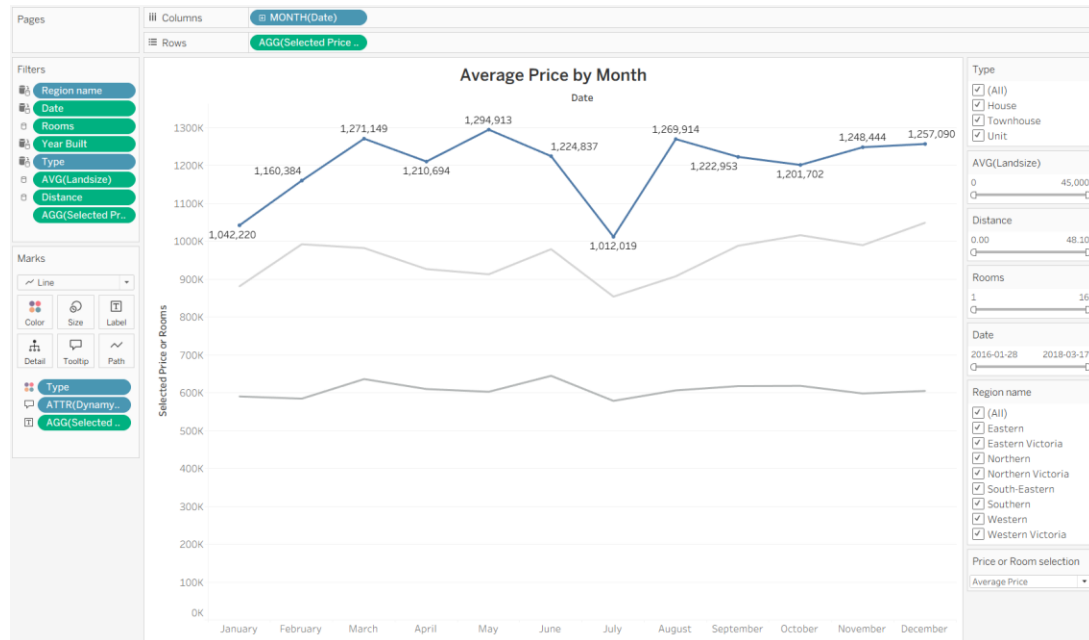


The same behavior occurs with the price per sqm



Plot #5 based on Month

We can see the average price of the houses that has being sold per month. This plot also follows the same pattern where we can filter by number of rooms, region name and type of houses. In this plot we are adding the date filter so can update the information we are seeing based on time.



Prices tend to peak in mid-year months (e.g., May–July), with seasonal fluctuations visible.

Parameter

Dialog: Edit Parameter [Price or Room selection]

Name: Price or Room selection

Properties:

- Data type: String
- Display format: Average Price
- Current value: Average Price
- Value when workbook opens: Current value

Allowable values:

☐ All ☒ List ☐ Range

Value	Display As
Average Price	Average Price
Price per sqm	Price per sqm
Number of Rooms	Number of Rooms
Click to add	

☒ Fixed
☐ When workbook opens

Add values from ▾

Remove Selected

Cancel OK

The Price or Room selection parameter allows users to toggle between average price, price per square meter, and number of rooms. A calculated field Selected Price or Rooms drives the metric shown in all charts, and dynamic title fields update accordingly for each plot.

Calculated Fields

Dialog: Selected Price or Rooms

```
IF [Price or Room selection] = "Average Price" THEN AVG([Price])
ELSEIF [Price or Room selection] = "Number of Rooms" THEN MEDIAN([Rooms])
ELSEIF [Price or Room selection] = "Price per sqm" THEN
  AVG([Price]) / NULLIF(AVG([Building Area]), 0)
END
```

The calculation is valid.

6 Dependencies ▾ Apply OK

Here we can see the calculated field of Selected Price or Rooms. This calculated field is linked to the parameter of Price or Room Selection. This formula is what is working in the background that leads the parameter that every time is changed, to show what the title reflects. Here we can see the calculations like average price, median of the rooms and the average price divided by building area.

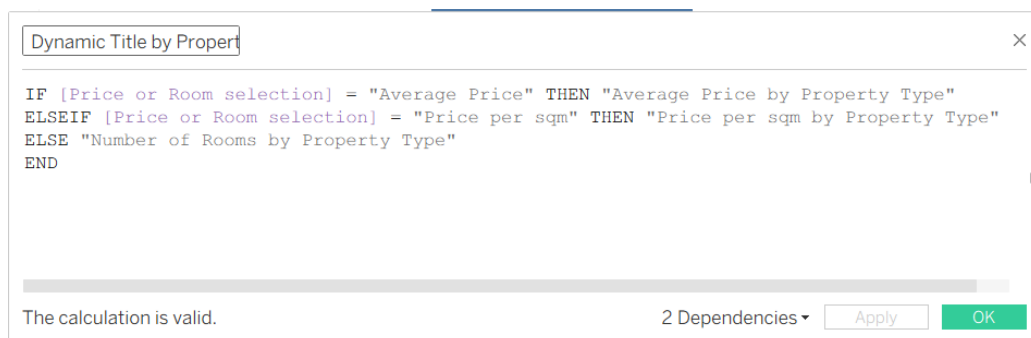
The other group of calculated fields created has the intention of having versatile titles that as they can change based on what we are filtering on the parameter. For example, if we are

filtering average price, then the title is reflecting an average price, if we are filtering a price per sqm, then the title is about price per sqm and if the parameter selected is about number of rooms, then the title of the plot also shows this information. In addition, the tile also shows if the if we are talking about average price, or price per sqm or number of rooms by property type for plot 1, by region for plot 2, by land size for plot 3, by distance to the center in plot 4 and by month in the fifth plot. Each of the following calculated fields has a similar name that starts with Dynamic title.

This is the first of them named.

Dynamic title - Property Type

This calculated field is used for the title in plot #1 and we can see its respective formula.



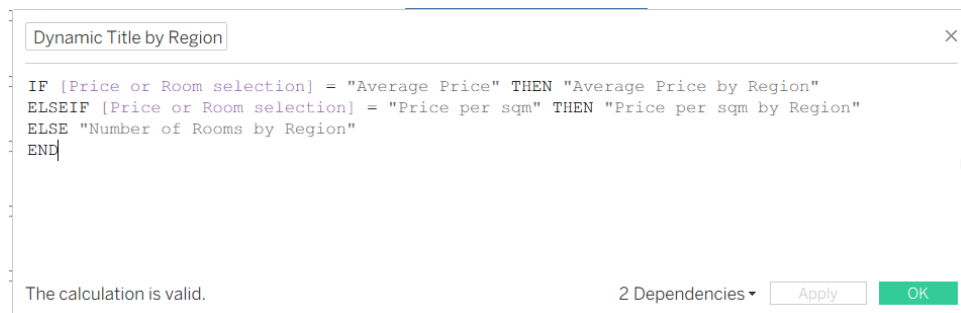
Dynamic Title by Property

```
IF [Price or Room selection] = "Average Price" THEN "Average Price by Property Type"
ELSEIF [Price or Room selection] = "Price per sqm" THEN "Price per sqm by Property Type"
ELSE "Number of Rooms by Property Type"
END
```

The calculation is valid. 2 Dependencies ▾ Apply OK

Dynamic title - Region

This calculated field is used for the title in plot #2.



Dynamic Title by Region

```
IF [Price or Room selection] = "Average Price" THEN "Average Price by Region"
ELSEIF [Price or Room selection] = "Price per sqm" THEN "Price per sqm by Region"
ELSE "Number of Rooms by Region"
END
```

The calculation is valid. 2 Dependencies ▾ Apply OK

Dynamic title - Land Size

This calculated field is used for the title in plot #3.

Dynamic Title by Land Si

×

```
IF [Price or Room selection] = "Average Price" THEN "Average Price vs Land Size"
ELSEIF [Price or Room selection] = "Price per sqm" THEN "Price per sqm vs Land Size"
ELSE "Number of Rooms vs Land Size"
END
```

The calculation is valid.

2 Dependencies ▾

Apply

OK

Dynamic title - Distance

This calculated field is used for the title in plot #4.

Dynamyc Title price by D

×

```
IF [Price or Room selection] = "Average Price" THEN "Average Price vs Distance to the Center"
ELSEIF [Price or Room selection] = "Price per sqm" THEN "Price per sqm vs Distance to the Center"
ELSE "Number of Rooms vs Distance to the Center"
END
```

The calculation is valid.

2 Dependencies ▾

Apply

OK

Dynamic title - Month

This calculated field is used for the title in plot #5.

Dynamyc Title price by M

×

```
IF [Price or Room selection] = "Average Price" THEN "Average Price by Month"
ELSEIF [Price or Room selection] = "Price per sqm" THEN "Price per sqm by Month"
ELSE "Number of Rooms by Month"
END
```

The calculation is valid.

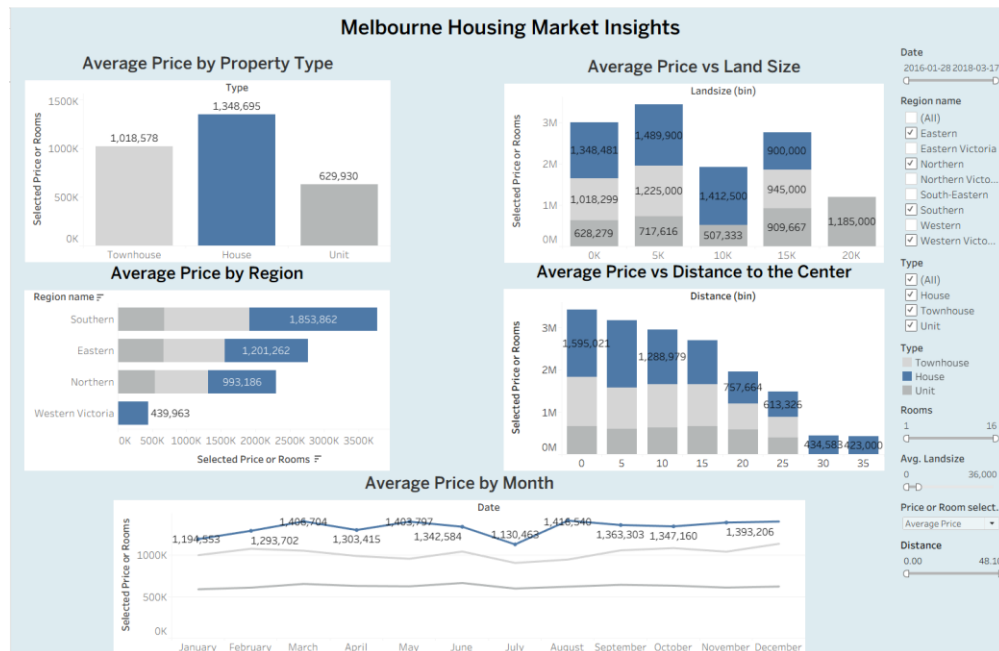
2 Dependencies ▾

Apply

OK

Dashboard

The dashboard layout places all five charts together, with interactive filters (rooms, year built, region, type) and a drop-down parameter. Titles and plots update automatically to reflect the selected metric.



This is how the dashboard looks like when the 5 plots explained before are presented together. We can see each of them, with their values and the on the right pane the different filters that we can use and the parameter to filter the information. We can see that under the current conditions we are filtering by average price based on the parameter, and average price is the title of each of the plots of the dashboard.



In this second visual of the same dashboard, we can see after applying some filters and changing the parameter, we can see that each plot changed including its title. Now, we are seeing that plot shows Price per sqm as its own title.

Visual hierarchy is maintained using consistent colors: House = blue, Townhouse/Unit = grays. Region colors use shades of teal to avoid conflict. Clutter is minimized by removing gridlines, aligning legends, and ensuring readable font sizes throughout.

Conclusion

Through the development of an interactive Tableau dashboard, this project successfully transforms a static dataset of 20,993 Melbourne property records into a dynamic, user-friendly analytical tool. The dashboard offers a streamlined interface for comparing property price metrics across categories with flexible parameter controls and filters. Users can explore trends by property type, region, land size, distance to the city center, and time, while dynamic titles and calculated fields ensure clarity and adaptability across different scenarios. This work highlights the power of Tableau in turning complex housing datasets into clear, compelling narratives that support investment, urban planning, and pricing strategy in real estate markets.