



A FRAMEWORK FOR CONSTRUCTING A HOUSING PRICE INDEX FOR BARBADOS: A PROGRESS REPORT

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OUTLINE

Motivation for the Framework

Review of Existing Approaches

Snapshot of the Data

Challenges

The Way Forward



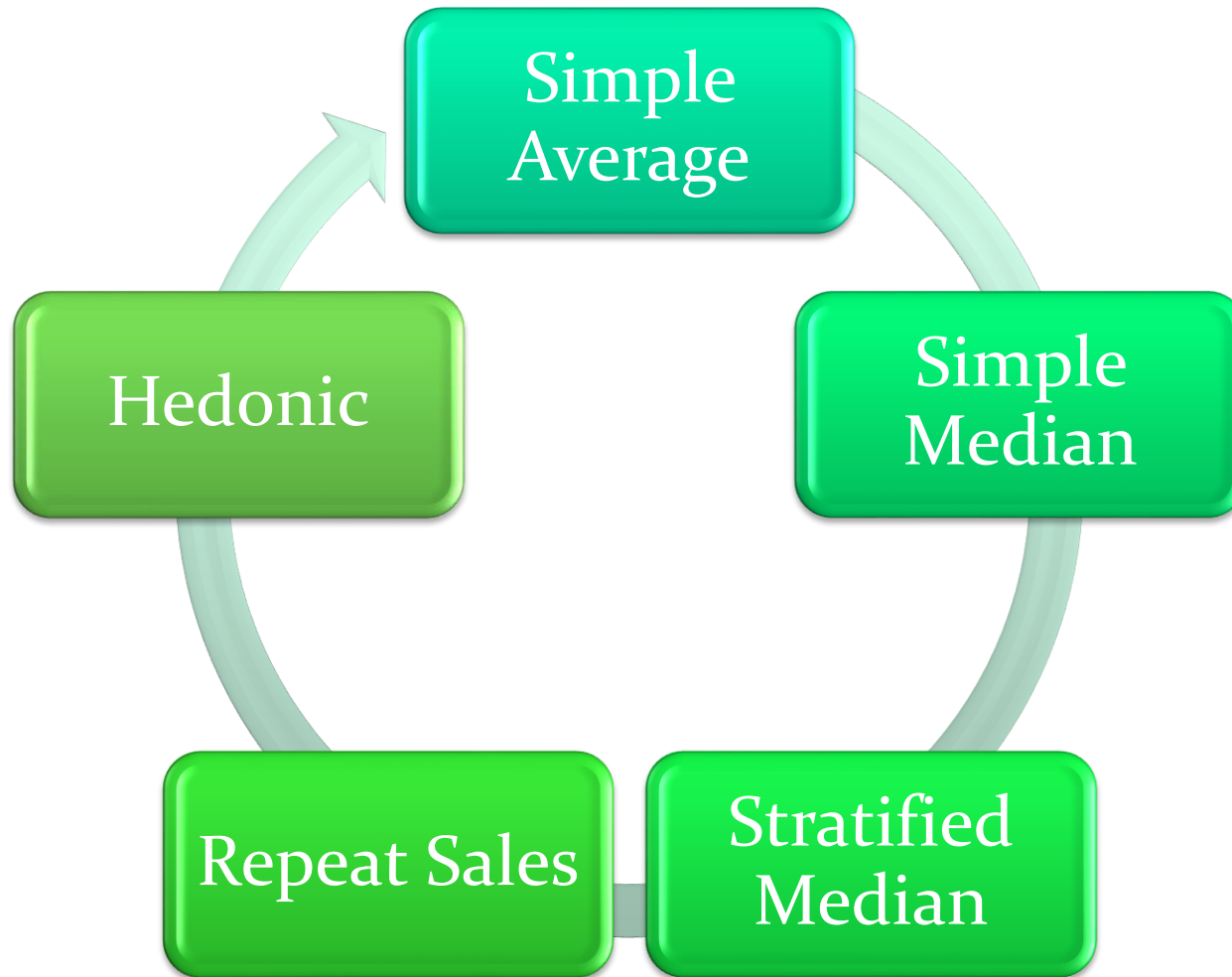
MOTIVATION



- Why Develop a Real Estate Index?
 - Real estate assets are a major element of wealth in the private sector
 - Increasingly connected relationship between the real and financial sectors
 - Implications for financial stability given banks' exposure to the real estate sector
 - Own real estate
 - Lend to customers to buy or develop real estate
 - Lend to other institutions exposed to real estate
 - Accept real estate collateral for non-real estate loans
 - Depositors may also be affected by real estate price movements



REVIEW OF APPROACHES IN THE LITERATURE



REVIEW OF APPROACHES IN THE LITERATURE

○ Simple Mean

- Sum of sales prices divided by number of units
- Cheap and simple to implement
- Seriously biased by few transactions with extreme values
- Ignores all characteristics related to the property, hence biased by changes in the mix of transactions and changes in the quality of the units being transacted

○ Simple Median

- The middle value among all the sales prices
- Compensates for some of the bias affecting the simple mean
- Still suffers from exclusion of significant information
- Assil (2012), Browne et al (2008), Eurostat (2011)



REVIEW OF APPROACHES IN THE LITERATURE

○ Stratified Median

- A simple approach to address the compositional problem
- Stratifies the market into homogeneous property types
- The median price for each stratum is weighted to reach the overall price index
- Too many cells – insufficient number of transactions in a given period to form an accurate cell average
- Too few cells – unit value bias, the mix of properties sold within each cell may change dramatically from period to period
- Relatively popular
- Prasad and Richards (2006), Hansen (2006), Kaya et al (2007)



REVIEW OF APPROACHES IN THE LITERATURE

○ Repeat Sales

- Compares the sale prices of the same properties across time in an attempt to hold the quality of properties constant
- Relatively popular, results are reproducible
- Still does not overcome the depreciation or renovation problem
- Ignores all info on properties sold only once during the period
- The most recent data must be interpreted with caution
- Bailey et al (1963), Diewert (2007), Silverstein (2014), Nagaraja et al (2010)



REVIEW OF APPROACHES IN THE LITERATURE

○ Hedonic Method

- Uses a regression model to estimate the price index based on specific quality factors that affect actual sales prices.
- Utilises data from all sales, but requires extremely detailed data and may be challenging to apply
- Model is only as good as the data on characteristics that are available
- The factors typically include:
 - The age of the unit/property
 - Size
 - Number of rooms
 - Physical location
 - Facilities such as running water or toilets.
- Can (1990), Hill and Melser (2007), Browne et al (2008), Gourieroux and Laferrere (2009)



SNAPSHOT OF THE DATA

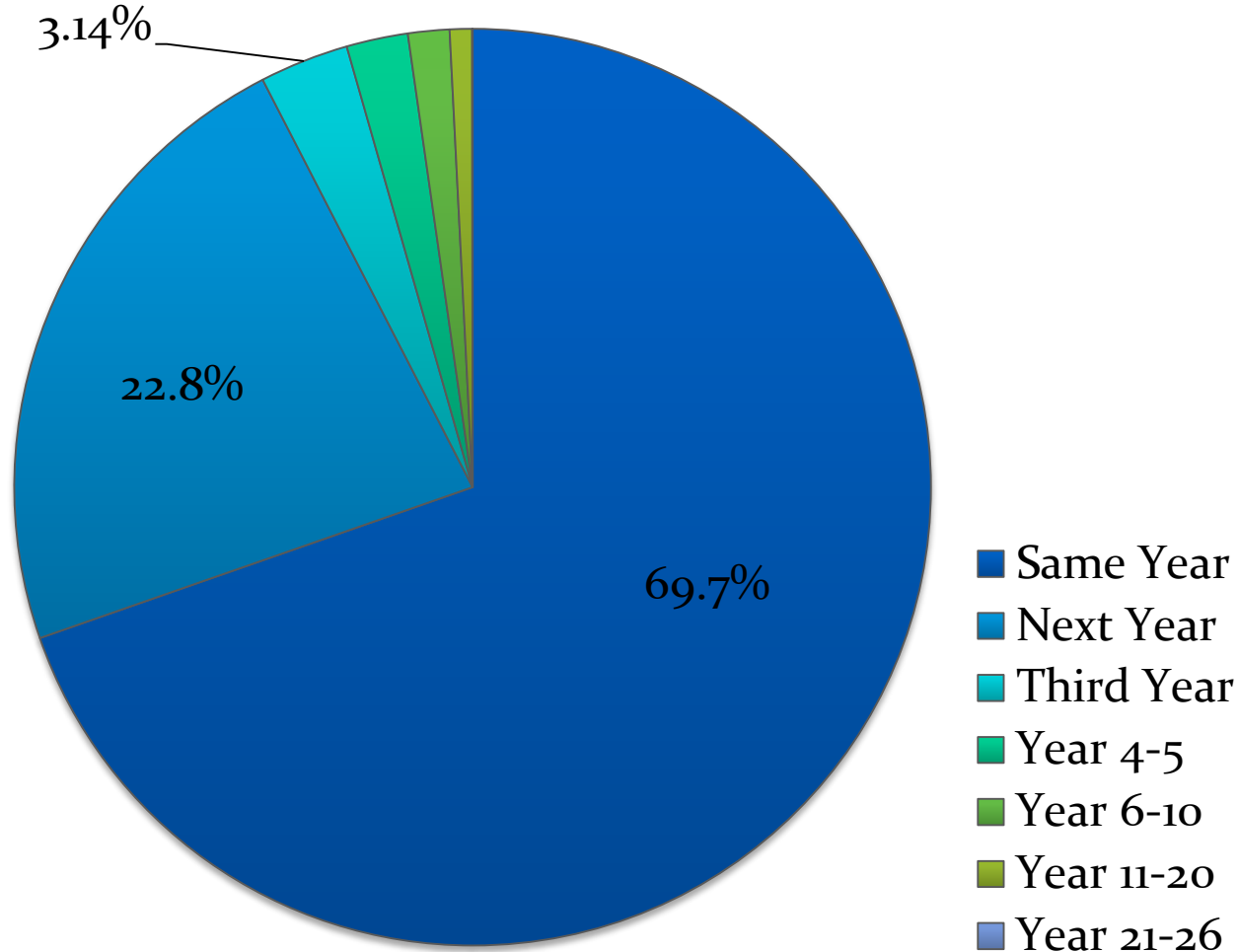
- Data was obtained from Land Registry Department (LRD)
- Covers each transaction or property transfer filed with the LRD (1988-2013)
- Includes the transaction date, file date, transaction price, location
- Unique land tax number identifies the property across other departments such as Land Tax Department or Town and Country Planning
- Data organised by file date



SNAPSHOT OF THE DATA

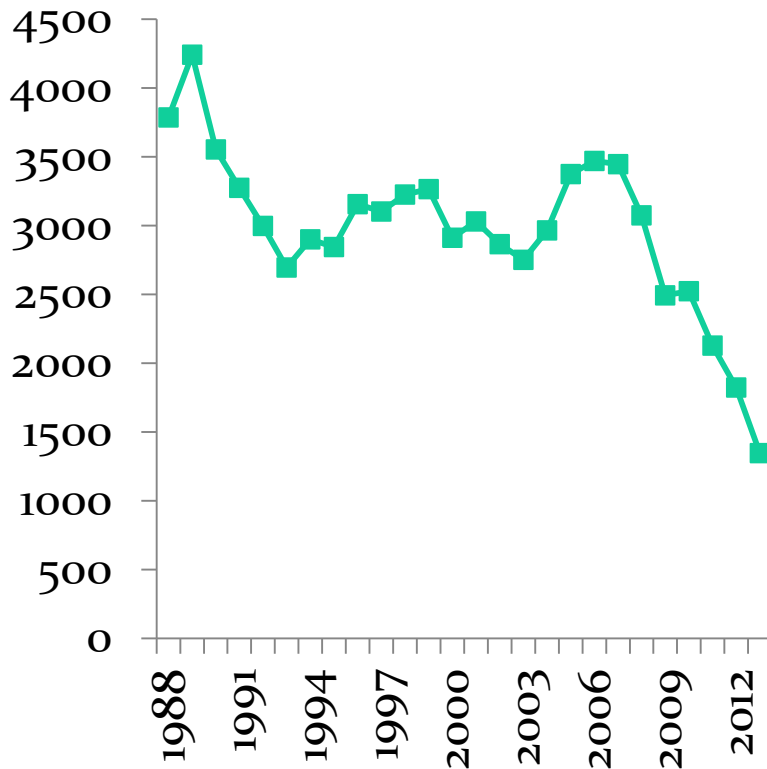
File Date vs. Transaction Date

(Average Time in which Property Transfers are filed over the Sample Period)

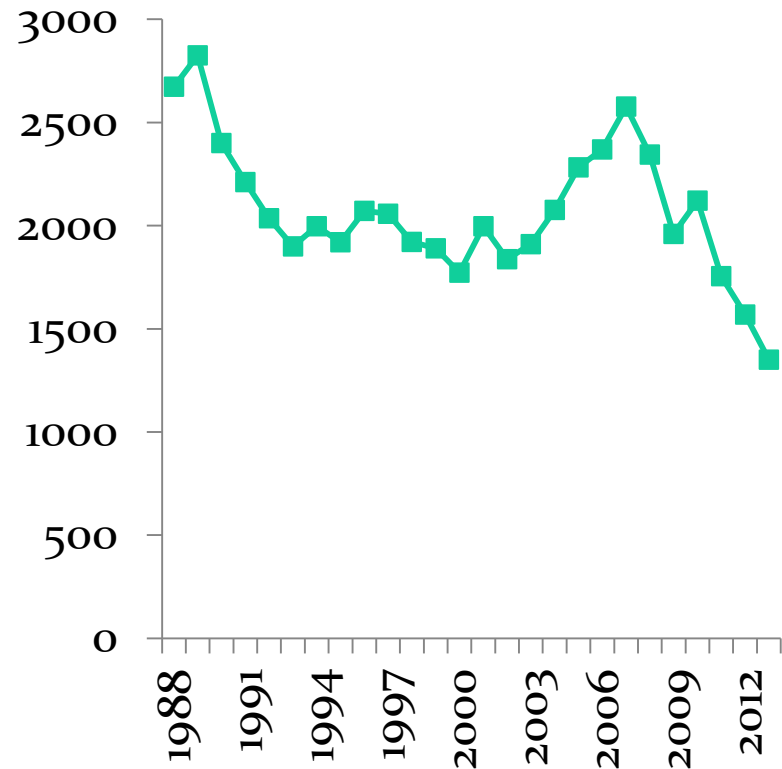


SNAPSHOT OF THE DATA

Number of properties which changed Ownership (1988-2013)



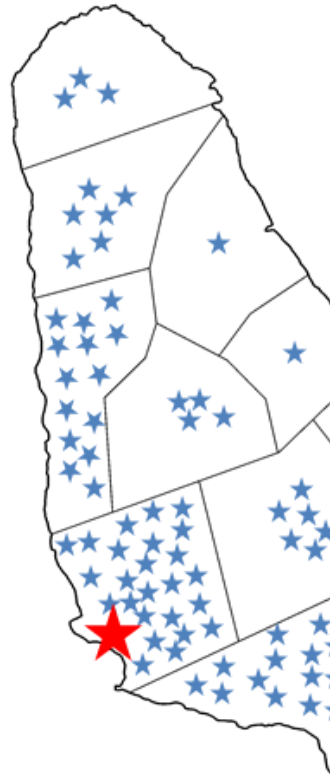
Number of property transfers which were filed within the sample period.



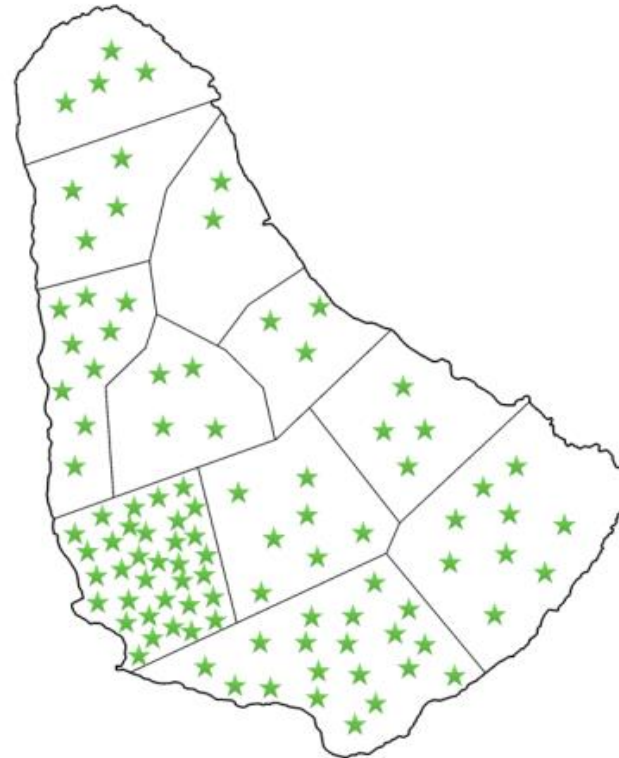
Number of property transfers which were filed within that particular year.

SNAPSHOT OF THE DATA

Proportion of property transfers by parish in 1988

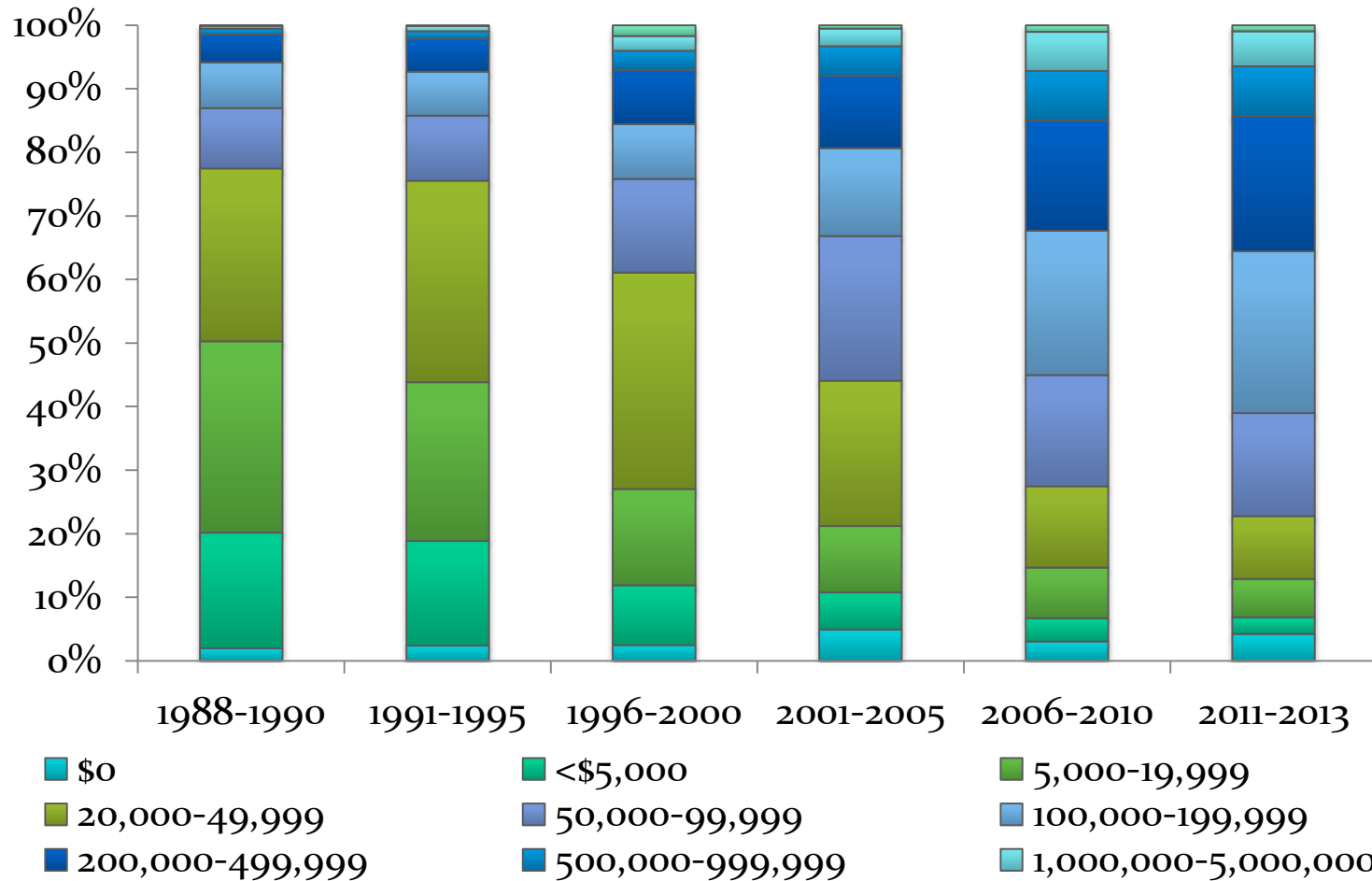


Proportion of property transfers by parish in 2013



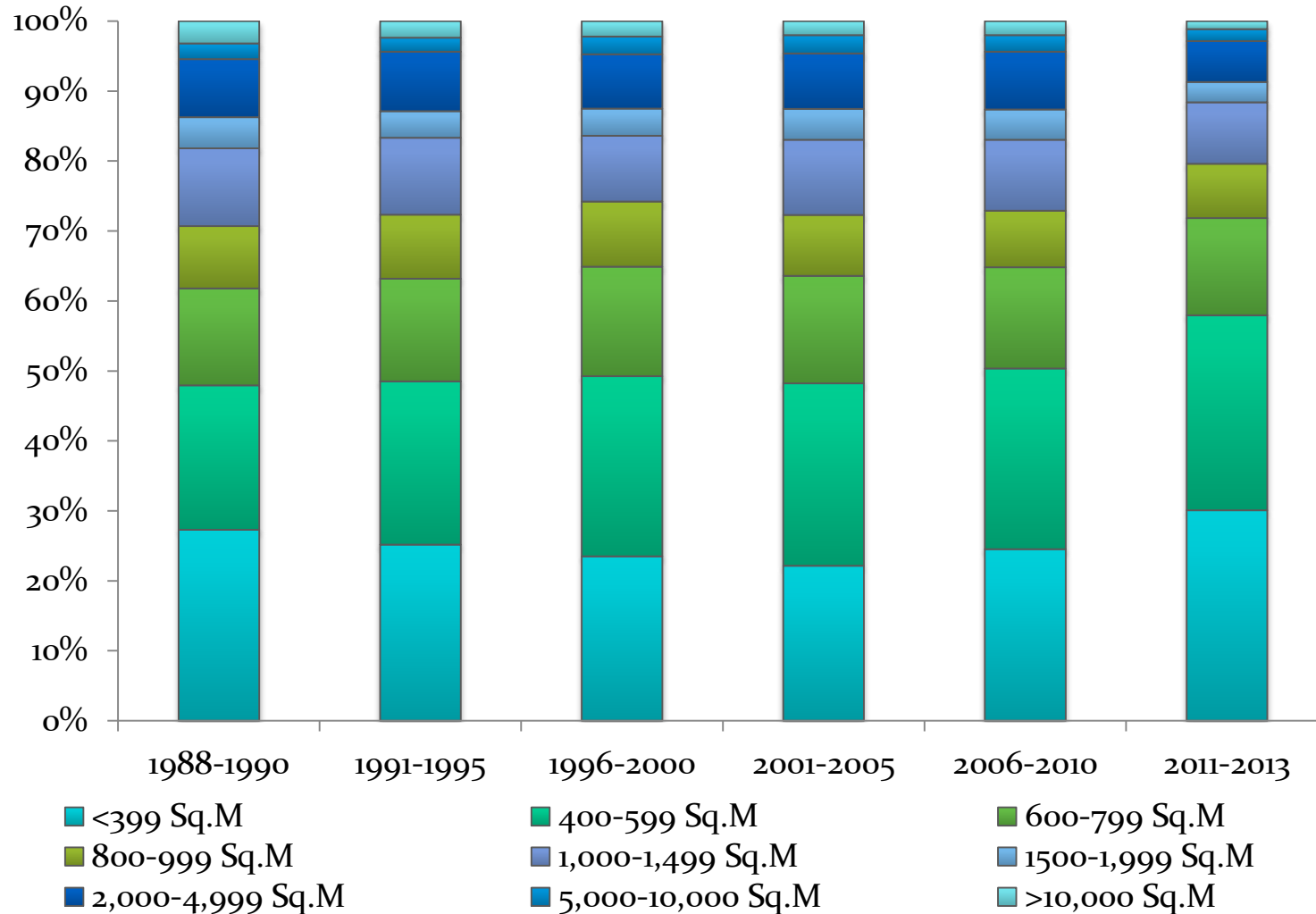
SNAPSHOT OF THE DATA

Proportion of Properties which changed Ownership by Price



SNAPSHOT OF THE DATA

Proportion of Properties which changed Ownership by Size



CHALLENGES



- The current dataset does not distinguish whether there is structure on the property.
- There is also currently no distinction between residential and commercial real estate
- Condominiums are listed as having zero size/area in the database.
- Few entries are being reported without a land tax number, preventing the ability to track these properties throughout the system.
- There still appears to be a small level of duplication in the data
- In a sub-division of a development, the individual properties are assigned the land tax number of the original property.



THE WAY FORWARD



- Have further discussions with the LRD to tease out some of the nuances observed in the data
- Attempt an estimation the simple/stratified median price index
- Determine whether there is a unique code that may be used to track individual properties through the system, so as to enable the use of the repeat sales method
- Follow-up with the Land Tax Department and/or Town and Country Planning to determine whether it is possible to obtain the characteristics associated with the properties, so as to conduct a type of hedonic approach.



THANK YOU

