

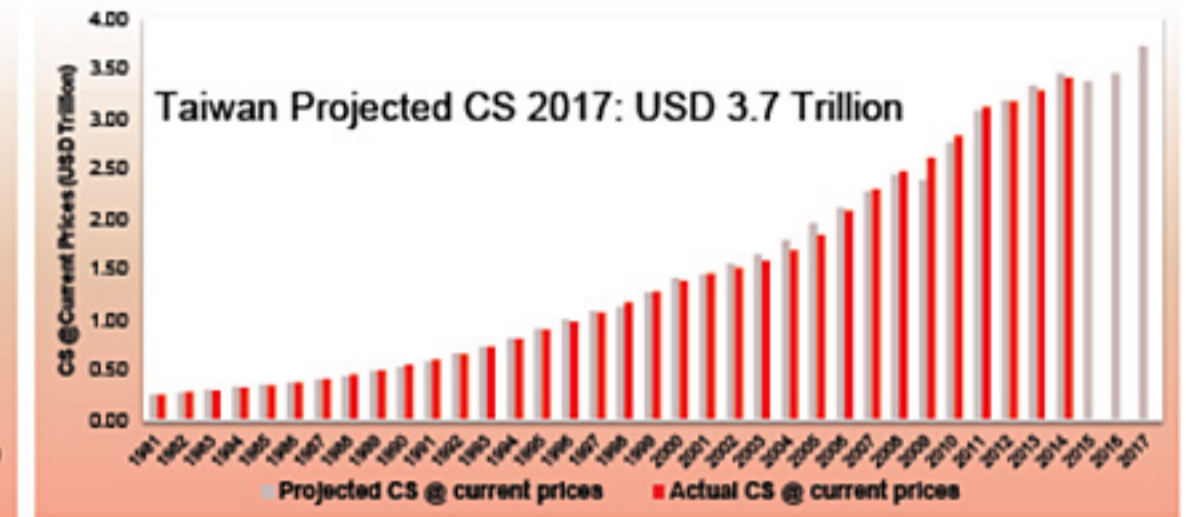
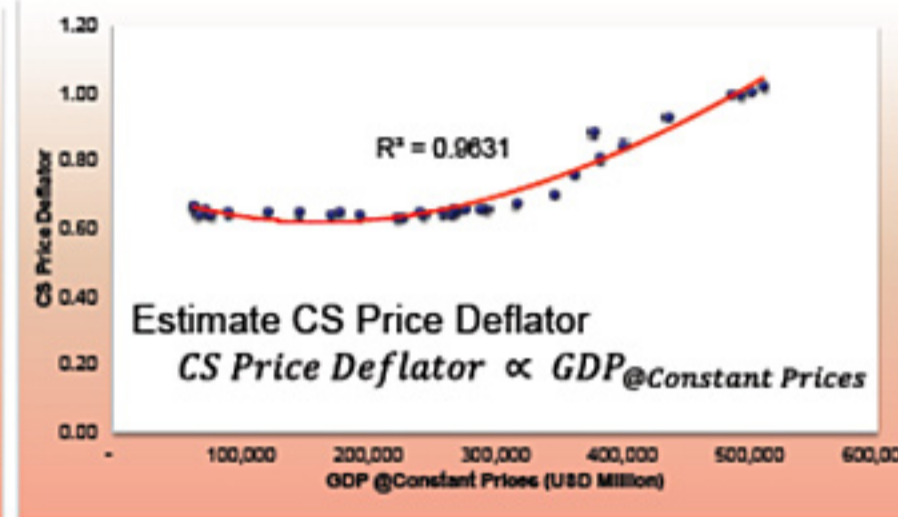
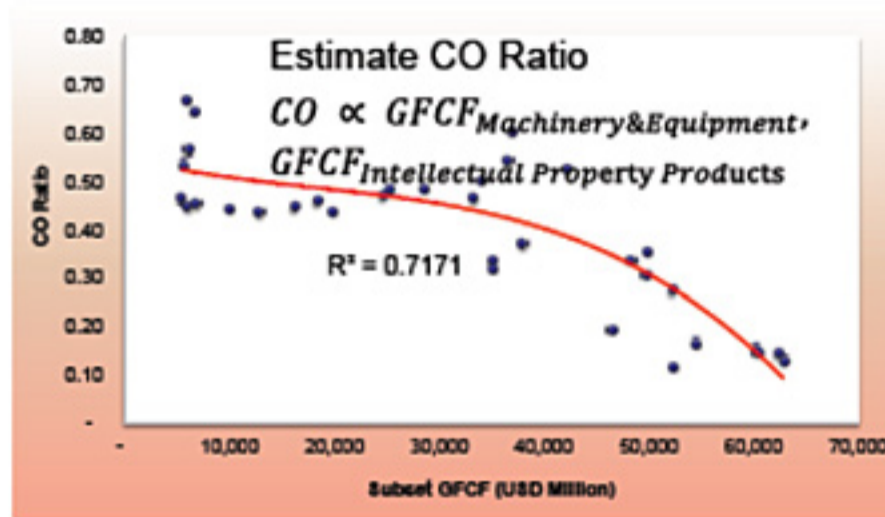


Estimating Building Value from Capital Stock – Taipei, Taiwan

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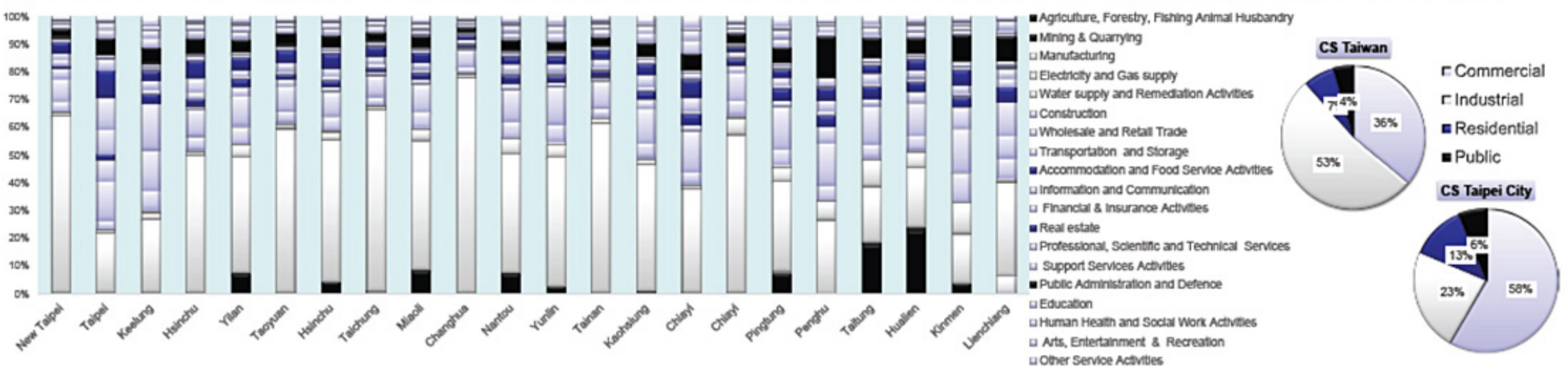
National Capital Stock

- Protection gap or Underinsurance in Asia is one of the biggest concerns for (re)insurance sector
- To address the protection gap we need to first estimate the economic exposure. The total economic exposure in a region gives an estimate of the insurable exposure
- Capital formation is a concept used in macroeconomics, national accounts and financial economics. It refers to the amount by which the total physical capital stock increased during an accounting period and is applied here for estimating economic exposure
- National Capital Stock (CS) is available from international sources and published by a country's national statistics

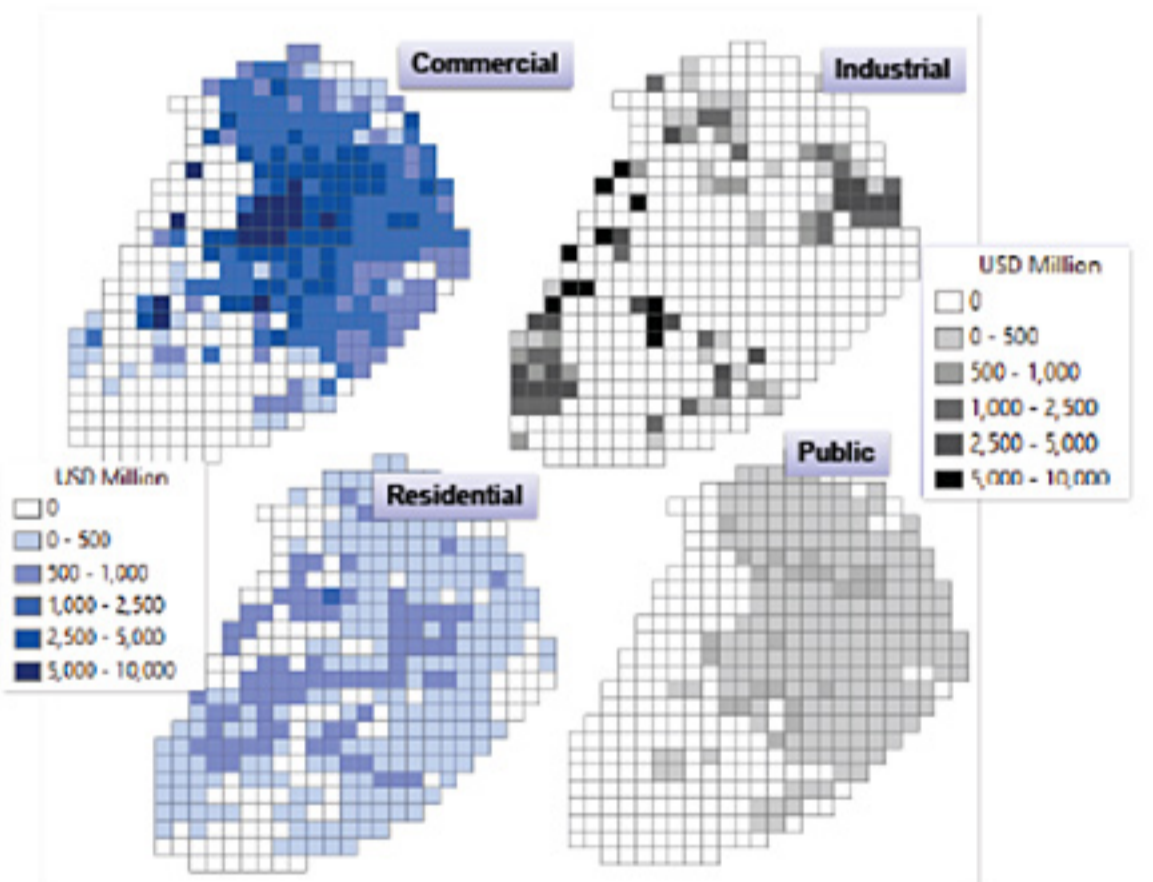
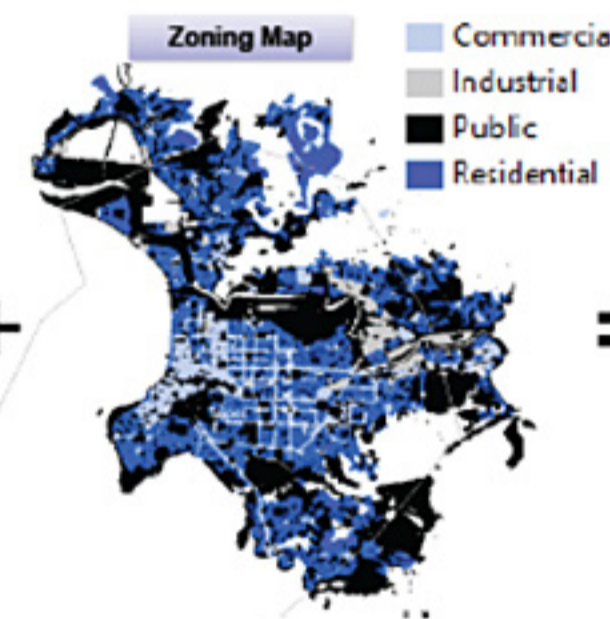
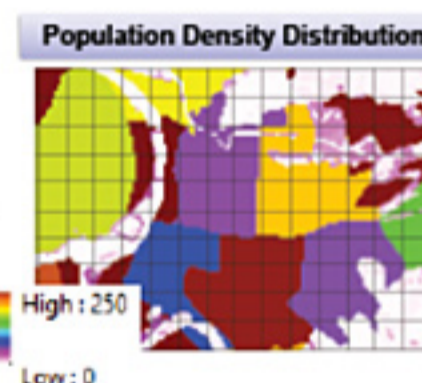
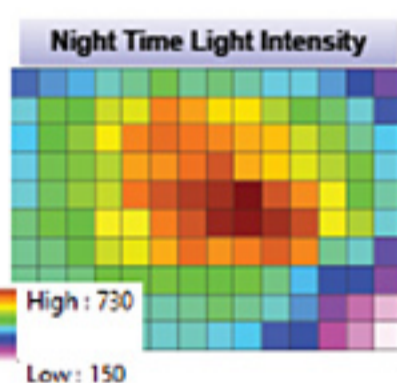


Admin Capital Stock

- Each admin region has its own economic strategy depending on the resources and the capital available, so each admin region focuses on industrial or commercial sectors
- Manufacturing Sector is the major contributor of CS in Taiwan. New Taipei City, Taichung City and Chonghua County are Manufacturing Hubs
- CS contributions in Taipei City are majorly coming from: Wholesale and Retail Trade; Information and Communication; Financial & Insurance Activities and Real Estate



Grid Level Capital Stock



Building Value

- Using high resolution satellite imagery, photogrammetry and image processing, NatCatDAX has developed building footprint and height extraction routines.
- Characteristics such as occupancy types, construction class, building age and number of stories are further derived
- Building Occupancy, Total Floor Area (TFA) and Construction Cost (CC) are applied to estimate the building replacement value
- TFA in a grid by occupancy along with Nighttime Light and population density data are used in disaggregating CS for each grid to estimate the CS building value
- Comparing values from Construction Cost, Capital Stock and Reported figures help in estimating the Economic Exposure

