

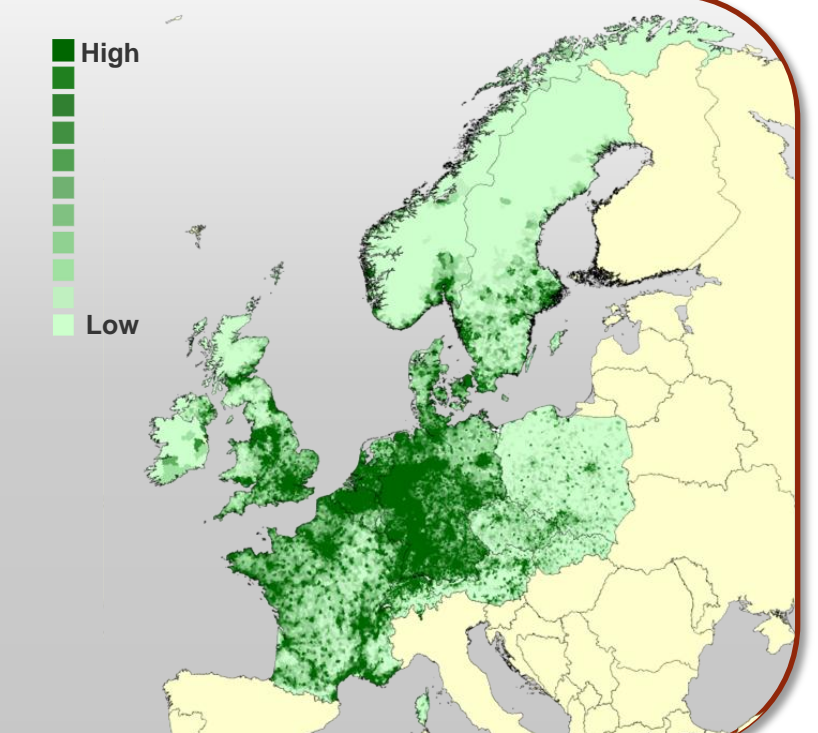
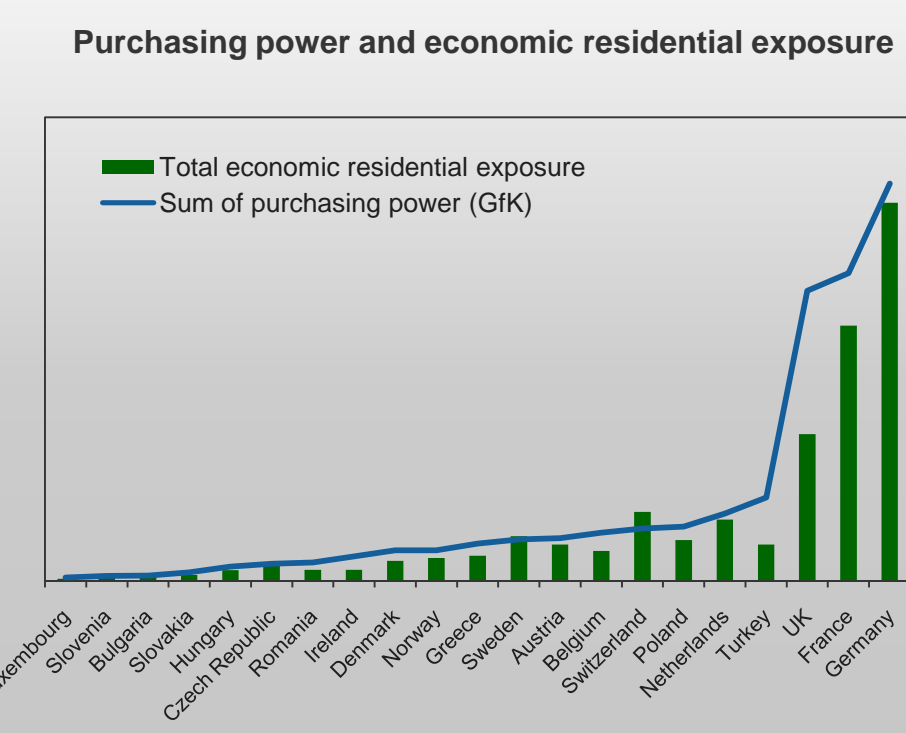
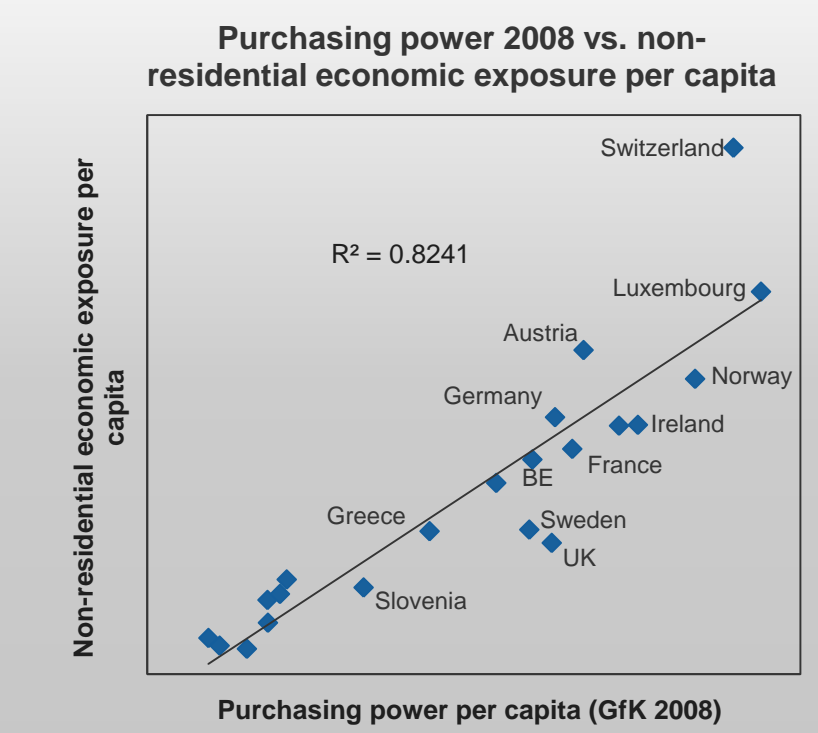
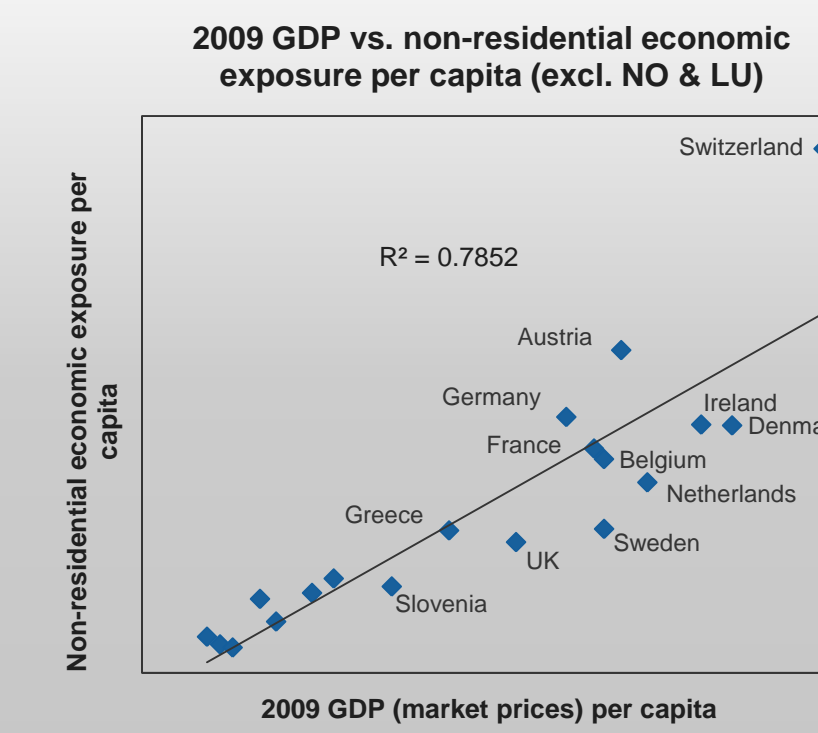
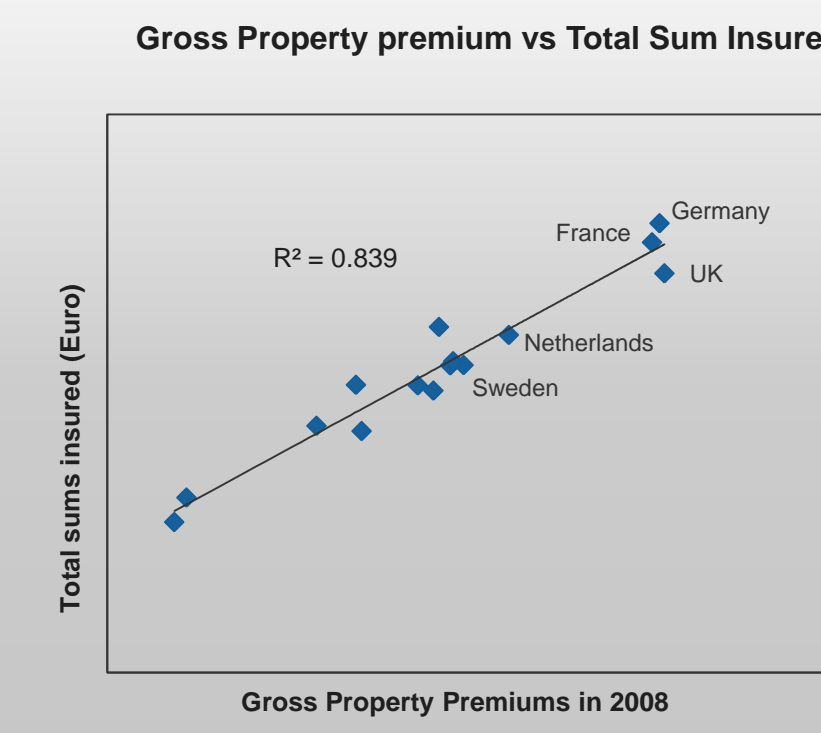
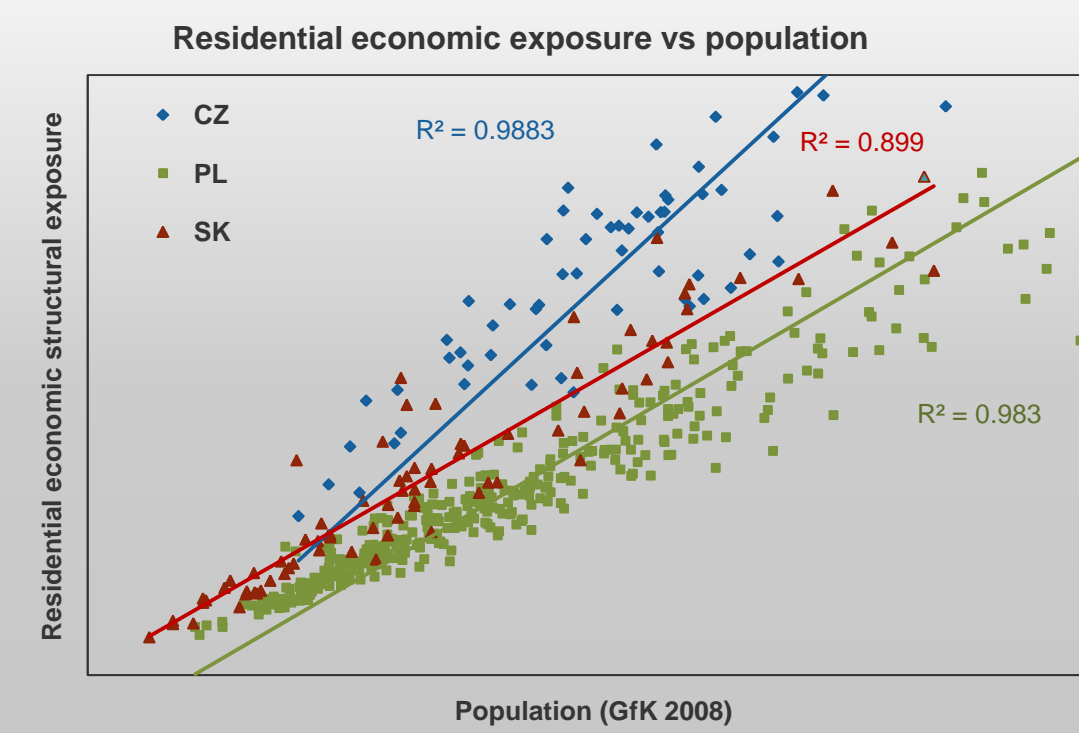
Insured Exposure Development for Estimating the Financial Consequences of Windstorm Risk in Europe

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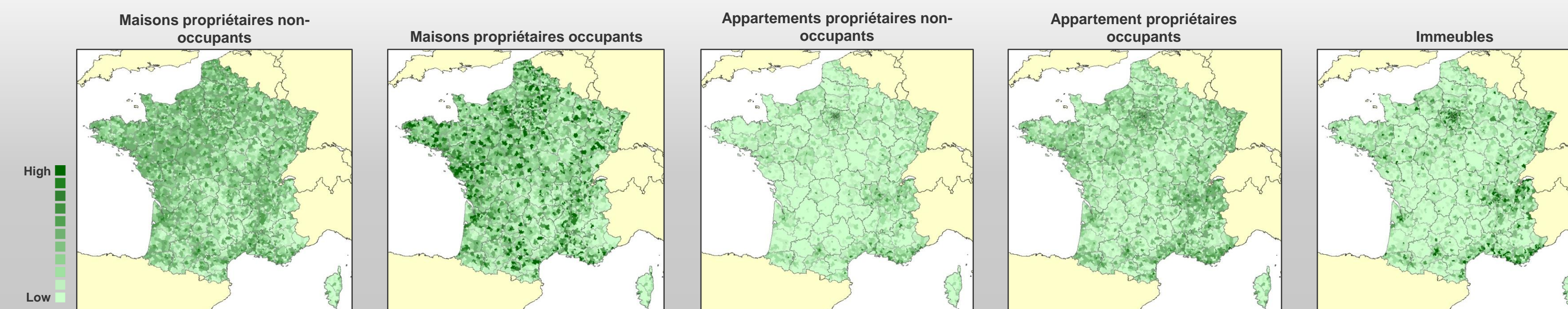
Validation

- Independent economic benchmarks.
- Purchasing power per capita:
 - Well correlated with modelled economic exposure per capita.
 - Although the UK appears off-trend this is expected to improve with more up to date purchasing power data.
- Gross property premium:
 - Well correlated with modelled insured exposures.
 - Although the UK appears off-trend this is expected to improve with more up to date premium data.

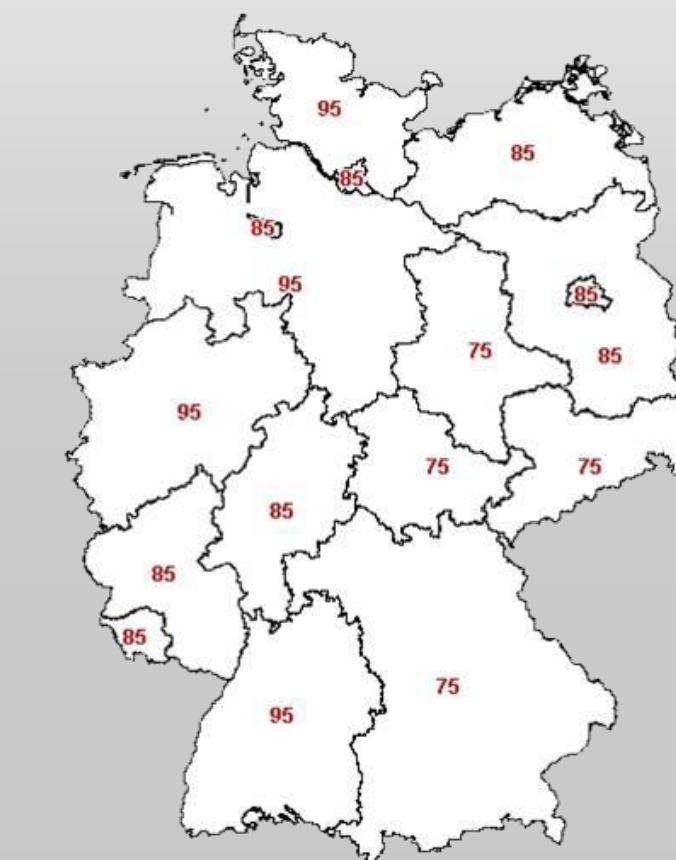


Insured Exposure

- By applying country- and peril-specific insurance assumptions on policy conditions and penetration rates, we estimate the insured or industry exposures.
- To the right are the total sums insured for residential structures by sub line of business:
 - Maisons propriétaires non-occupants (SFD landlords)
 - Maisons propriétaires occupants (SFD owner-occupiers)
 - Appartements propriétaires non-occupants (MFD landlords)
 - Appartements propriétaires occupants (MFD owner-occupiers)
 - Immeubles (shell of a MFD building)
 - Maisons and appartements locataires (renters, only contents insurance)



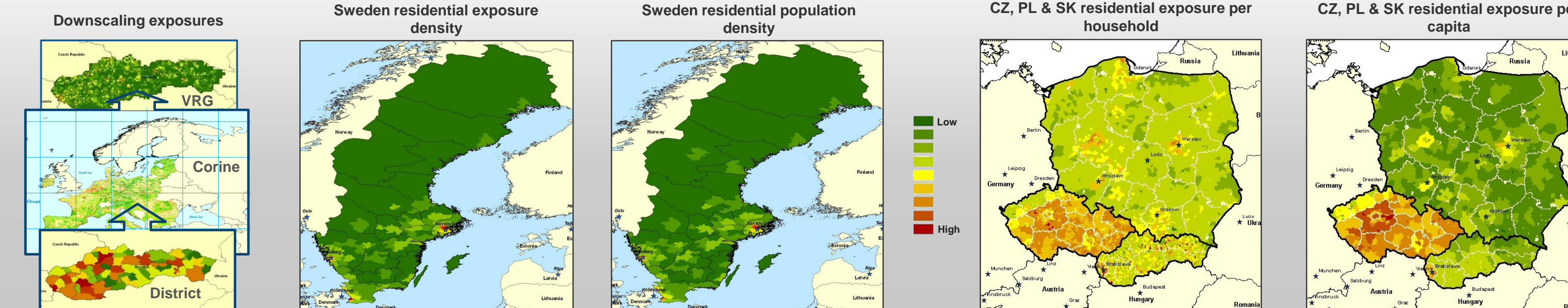
Insurance Assumptions



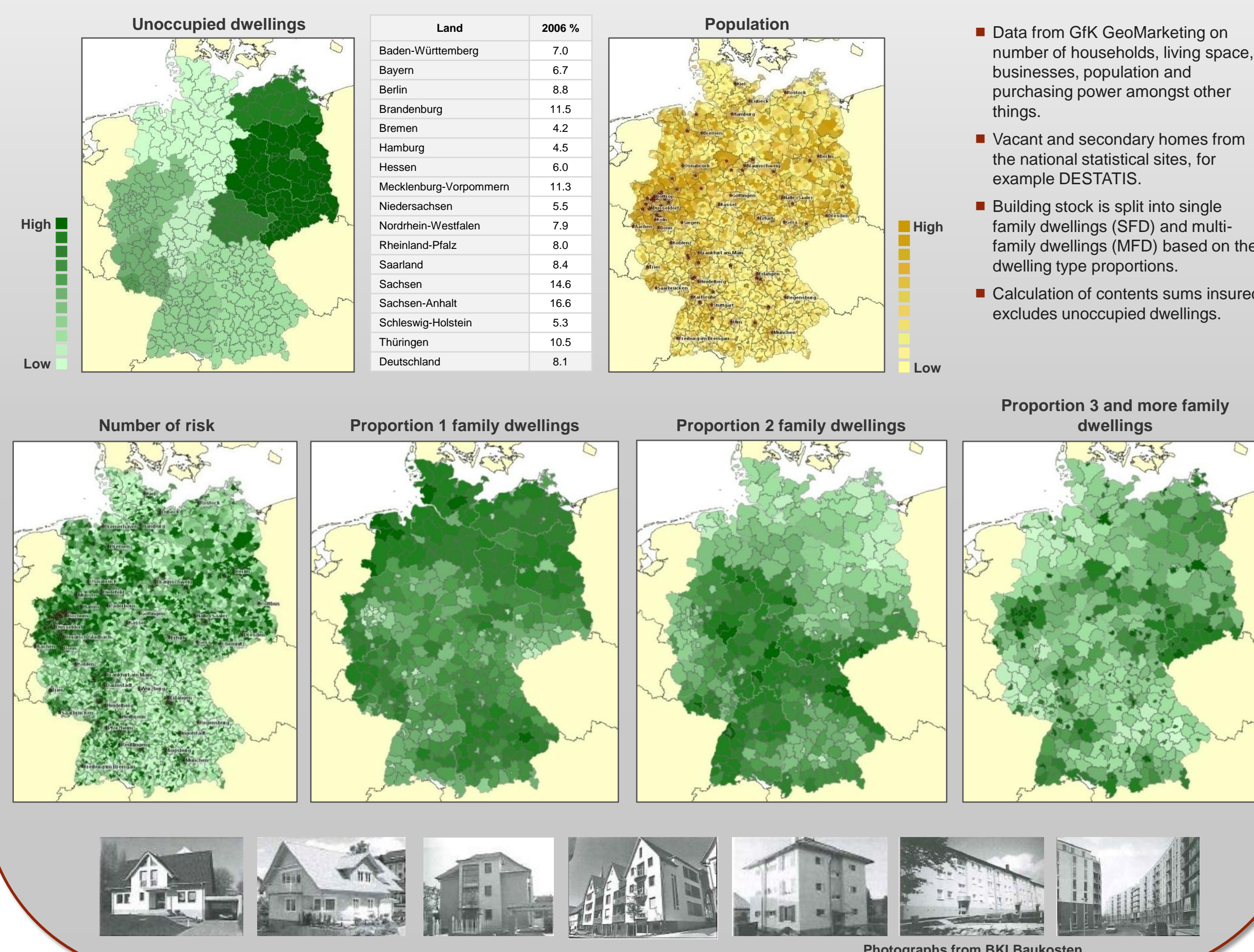
- In Germany, the take-up rates for residential structural policies vary regionally.
- Historic evidence suggests that in some Bundesländern (for example Baden-Württemberg) there is compulsory insurance.
- The country-wide average take-up rate is about 85%.
- For contents policies the take-up rates vary between the West and the former Eastern Bundesländern.

Economic Exposure

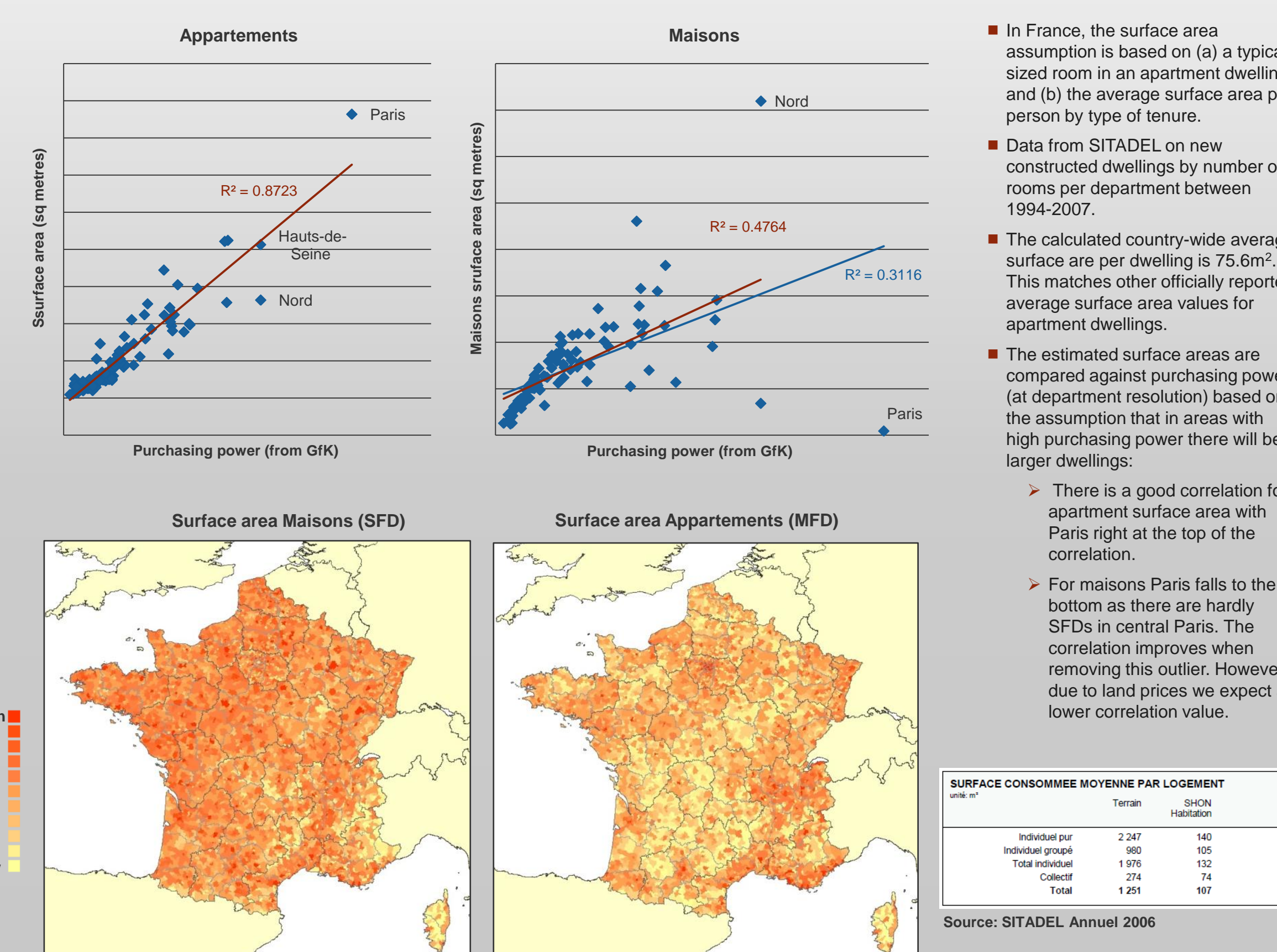
- With the number of buildings, average surface areas and the construction costs per square meter, we can now estimate the economic exposure values for all properties at risk in a given country.
- Exposures may have to be downscaled if only low-resolution data is available (e.g. district). Distribution factors are calculated via remote sensing data (land use/land cover data from Corine) to distribute exposures to Variable Resolution Grid (VRG) cells. From there exposures are re-aggregated to postcode resolution for the IED.
- Validations of the spatial distribution of economic exposures includes mapping the exposure and population density (per km²) and exposure per household as well as per capita.



Building Stock



Size of Building



Replacement Cost Value

