Spanish Cadastre, a valuable registry

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4th April 2019
Cadastre: Public Registry of real estate

An official register from the Ministry of Finances with authoritative data

Complete and updated:
Covers all territory: Urban, rustic and special real estate

Obligatory inscription of all property: by citizens and public administrations

Multiple uses and available to everybody through multiple channels, free of charge

Public function
Financing: basis of the property tax
Census and social aids
Protection of Rights
Planning and Management of public policies:

Urban planning, land use
Networks of services and supplies
Agrarian,
Environmental, Energy performance
Risk maps, civil protection, emergencies
Linking or support of statistical data others

Very much used by private companies and citizens
Main task of the Spanish Cadastre is to **describe** each real estate object and to assign a **value** to it.

Descriptive data of each real estate object on continuous cartography
Manages information of 78 millions properties

**Standard model**
Complete and homogeneous territorial continuum, that permits to access a huge amount of official data

- **Real Estate Identification data:**
  - cadastral reference, province, municipality, addresses or location.

- **Juridical data of real estate:**
  - Titleholders’ name and national identity number, addresses of titleholders and the notification address, date of acquisition and rights data....

- **Physical data of real estate:**
  - land area, representation of the Buildings (even with the description of every floor) buildings area, class of crops, conservation status of the constructions, use (legal and actual one), construction typology, year of construction.....

**Economic data of the real estates:**
value of land, value of construction and cadastral value, criteria and valuating module, real estate taxable value, exemptions and benefits.
The **cadastral value** of each property is determined objectively from the data in the Real Estate Cadastre. (Quality, completeness and good updating are of importance)

From all the characteristics that we include in the cadastral dataset, the values are the most valuable; economically and socially...
The cadastral value is an administrative value, and it is the basis for or it is taken as a reference in relation to certain actions of the Public Administrations:

From a tax view:
- Recurrent Property Tax,
- Income Tax,
- Wealth Tax
- Tax on the Increase in Value of Urban Land,
- others.

From a non-tax view:
- expropriation,
- urban assessments,
- certain types of aids,
- scholarships and grants, etc.

64% of local fiscal income

RECURRENT real estate tax is the main income of the Spanish municipalities,

14.800 millons € approx. 2018

14.750.899.759 €
Cadastre - recurrent property tax allows local financial sufficiency (also in times of crisis)

1 euro that the government invests in Cadastre

Generates

7 euros of income for the municipalities
And also indispensable for many public policies and private uses

Serving **daily 1.1 million consultations and almost 21,000 certificates**

Enabling **maps downloads** at a rate of over **180 Milions per year**

**TOTALLY FREE OF CHARGE**

https://www.sedecatastro.gob.es/
And also indispensable for many public policies and private uses.

Download service of massive graphic and literal information (several standards, INSPIRE etc.)

Many other services adapted to users

**Easy to use**

Viewer that allows users to navigate from an overview of the complete territory to approach each one of the parcels, buildings and units and also through the map access to the most relevant alphanumeric characteristics of them.

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</tr>
</thead>
<tbody>
<tr>
<td>Saving in number of hours</td>
<td>2.800.674</td>
<td>3.246.573</td>
<td>6.174.663</td>
<td>7.694.667</td>
<td>8.253.567</td>
<td>8.867.987</td>
<td>9.120.201</td>
</tr>
<tr>
<td>Monetaring savings</td>
<td>72.064.926</td>
<td>49.270.251</td>
<td>135.403.871</td>
<td>105.293.298</td>
<td>112.678.498</td>
<td>115.723.615</td>
<td>120.265.784</td>
</tr>
</tbody>
</table>
Important uses “not easily transform in economic value

Rights Protection:
✓ Property rights extended to all real estate.
  Private and Public (patrimonial and public domain)
✓ Other rights (agricultural subsidies), restrictions (urbanism) and responsibility
  --- but also compensations: e.g. floods, earthquakes, etc.

Environmental Protection:
✓ Delimitation of restricted areas
✓ Attribution of energy efficiency in real estate
✓ other uses........as agricultural planning and Fire Fighting Improvement

Personal Protection:
✓ Use for Civil protection (e.g.: police and firefighters use height and structure of
  building for Catastrophe Management------- Risks, access, evacuation)

transparency
availability
interoperability
quality: (complete, accurate, homogeneous and updated)
Cadastral data offers many possibilities in the digital society:

2 examples: Tax Agency and Statistics Office

- N º urban real estate (disaggregated by uses),
- cadastral value of urban real estate (also by uses),
- soil and construction value,
- n º urban parcels (built and unbuilt),
- urban parcels according to area,
- number of rural parcels, sub-parcels etc...
- cadastral value of rural areas (disaggregate by crop type etc..).
- Units by buildings
- Category, antiquity and other characteristics of these units
- cadastral value by units, by titleholder etc...
- Vacant land,...

by municipality, province, regional and nation.

The General Directorate for Cadastre publishes official statistics on cadastral data and the recurrent property tax

- Average market value of real estate
The cadastral database also has many other data of Real estate of interest for both national policies and the European Union;

All these data are georeferenced and susceptible of mapping at different levels for their better understanding for the users.

Cadastral data offers many possibilities in the digital society:
2 examples: Tax Agency and Statistics Office
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2 examples: Tax Agency and Statistics Office

Statistic office uses cadastral data for merging statistics and geo-spatial information:

Mainly National Statistic Institute uses cadastral data to geolocated information in all their field works, but also uses other cadastral information in their surveys.

NSI access via web in any moment to continuously updated cadastral information. And they can download also the variations in a period automatically.

For example

In order to elaborate the last Census of Population and housing 2011, the NSI changed its methodology and worked on cadastral information.

NSI not only used the cadastral cartography as base, but they used the associated cadastral information as for example the units within a building or the uses of each unit of the real estate.

The NSI also used the graphical and alphanumeric cadastral data in the elaboration of the Agrarian Census.

The **Tax Agency** uses 'big data' tools to cross cadastral data with data from various sources to **prosecute tax fraud**.

Combining cadastral data with other data using big data and artificial intelligence techniques facilitates

- the determination of patrimonial changes and taxable events to be regularized,
- as well as the analysis of a permanently updated situation of assets and rights, for the purposes of declaratory control.
TOP TEN TAX EVADERS

Comparing a World Bank report to a Heritage Foundation report, British accountant Richard Murphy estimates global tax evasion at five percent of the global economy and found these ten countries had the largest absolute levels of evasion.

<table>
<thead>
<tr>
<th>Country</th>
<th>TAX LOSS $ billions</th>
<th>SHADOW ECONOMY % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>337.3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Brazil</td>
<td>280.1</td>
<td>39.0%</td>
</tr>
<tr>
<td>Italy</td>
<td>238.7</td>
<td>27.0%</td>
</tr>
<tr>
<td>Russia</td>
<td>221.0</td>
<td>43.8%</td>
</tr>
<tr>
<td>Germany</td>
<td>215.0</td>
<td>16.0%</td>
</tr>
<tr>
<td>France</td>
<td>171.3</td>
<td>15.0%</td>
</tr>
<tr>
<td>Japan</td>
<td>171.1</td>
<td>11.0%</td>
</tr>
<tr>
<td>China</td>
<td>134.4</td>
<td>12.7%</td>
</tr>
<tr>
<td>Britain</td>
<td>109.2</td>
<td>12.5%</td>
</tr>
<tr>
<td>Spain</td>
<td>107.4</td>
<td>22.5%</td>
</tr>
</tbody>
</table>

Source: Richard Murphy, Tax Justice Network

REUTERS
The 'Big Data' analysis is the process of examining large amounts of data from a variety of types to discover hidden patterns, unknown correlations and other useful information.

Big Data can deal with huge amounts of data, but also can combine data of different types: structured and unstructured.
These new techniques allow the tax agency to combine many data available for them with **cadastral data** (**values, cadastral references, addresses, title holders etc..**) to identify Screen companies, hidden assets, true ownership, related operations, professional activities, or property alterations and transfer of rents.

![Results: wealth calculation](image)

- Calculation for ALL individuals and companies at “n” levels of depth
- Aggregation of indirect participation through multiple paths
- Combined with other property such as real estate and financial assets
- Time evolution
- Family aggregation

**Fraud Collection**
- Hidden assets
- True ownership
- Figureheads
- Screen companies
- Fraud networks
- Unexplained wealth increases
Combining: cadastral ref. + location + real estate value + characteristics of real estate + owner (National identity number) + other data of tax agency

Some examples:

The expenses on real estates that are paid directly or indirectly are compared with statements to search for inconsistencies:

• Undeclared patrimonial gains.
• Patrimonial gains unjustified
• Real estate sales to the family environment for a much lower price than the market
• etc

Rental statements far below the market.
Rents in areas of value that do not correspond to the salary.

Undeclared vacation rentals

In rural areas: calculation of the patrimonial value and of the agrarian income according to the crop and use extracted of the cadastral database

Many other
Using cadastral data combined with other data with advanced data analysis systems permits

- the selection of taxpayers and activities for sampling,
- the creation of tax risk profiles,
- and the establishment of checks with greater speed and accuracy.

It will lead to **predictive analytics** to take **automatic decisions** in tax procedures.

Also the preparation of PREDECLARATION:
To present to the taxpayer the assets that the administration knows: **real estate**, financial and corporate ..... to help him declare

Through the use of cadastral data with data analytics in the core of its business the Spanish Tax Agency is improving its results year by year, and accomplishing its mission in a more effective and efficient way.
Conclusions

Spanish Cadastre:

• Provides information to the totality of the Public Administrations
• Is fundamental for local funding
• Public and private users continuously are finding new purposes and developing existing purposes.

It has strong presence and big potential in the Digital society

As for example
• combining statistics and geospatial data
• using cadastral data with big data technologies for stop taxation fraud

Serving daily 1.1 million consultations and almost 21,000 certificates
Enabling maps downloads at a rate of over 180 M per year
For all this Cadastre is much more than a real estate data record

Fundamental for

- Social Cohesion,
- Territorial structuring,
- Socio-economic development

Big interoperable platform for territorial information Services
One of the great transversal public services of the country

Thank you for your attention