



## Does good local governance improve subjective well-being?

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### ABSTRACT

The goal of this research is to examine the effects of good management of local governments on individual subjective well-being (SWB). We define three dimensions of good governance at the municipal level: accountability, government efficiency and control of corruption. We use a large survey of individual welfare carried out in Spain in 2013 and 2018 and distinguish four potential drivers of SWB: socio-demographic factors, material conditions, quality of life and municipal governance. Individual QoL variables, such as social connections or health status are major drivers of SWB. To a lesser extent, the material conditions also have a significant impact. With respect to good governance, our results point to an immediate positive effect of government efficiency on individual SWB levels. In contrast, accountability, understood as transparency, does not seem to have a significant impact. Surprisingly, we find no immediate effect of corruption on reported SWB, but a very strong deferred impact.

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### 1. Introduction

The level of subjective well-being (SWB) of an individual is driven by a series of genetic and environmental factors. Some genetic variants associated with perceived SWB have been identified in specialized literature (Okbay, Baselmans & De Neve, 2016). Such findings imply that a significant part of SWB is inherited, or, at least, its potential is written in our genes (Bouchard, Lykken, McGue, Segal & Tellegen, 1990; Lykken & Tellegen, 1996). Genes mediate the potential for well-being, but do not determine completely the actual achievements of an individual through life. Socio-demographic, economic, and quality of life variables are also critical drivers of individual SWB (Arrondo, Cárcaba & González, 2020; Somarriba & Zarzosa, 2019).

Some of the environmental circumstances that surround SWB are influenced by policy decisions at different levels of the administration. The aspirations of public policy in the last 30 years have gone beyond the meeting of mere material goals towards the achievement well-being (Atkinson & Joyce, 2011). Within this framework, the

academic literature has devoted great attention to explore the links between public governance and well-being (Altman, Flavin & Radcliff, 2017). Most of these efforts have addressed the effects of political orientation and government size on citizen's satisfaction. The efforts of governments in protecting citizens from market forces (welfare state protection) are often found to increase satisfaction with life (Álvarez-Díaz, González & Radcliff, 2010; Ott, 2010; Pácek, Radcliff & Brockway, 2019), although the evidence is not conclusive (Kim & Kim, 2012). Less attention has been paid to the study of the relationship between the quality of governance (QoG), understood as effective management and incorrupt government, and well-being (Helliwell & Huang, 2008; Helliwell, Huang, Grover & Wang, 2014; Jakubow, 2014). The general finding is that the QoG matters and has important positive effects on life satisfaction (Samani & Holmberg, 2010).

Due to data availability, the vast majority of empirical research connecting the QoG to welfare outcomes has focused on explaining variance across countries (Almatrneh & Emeagwali, 2019; Helliwell et al., 2014; Holmberg, Rothstein & Nasiritousi, 2009; Kaufmann, Kraay & Zoido, 1999; Ott, 2010). In contrast, within-country effects have not been studied in such depth. Attempts typically stop at the regional (state) sublevel of analysis (e.g., Charron, Dijkstra & Lapuente, 2015; Ferrara & Nisticò, 2019) and some papers have explored the links between good local governance and economic

Abbreviations: QoG, Quality of Governance; QoL, Quality of Life; SWB, Subjective Well-Being

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growth (Balaguer-Coll, Narbón-Perpiñá, Peiró-Palomino & Tortosa-Ausina, 2021). However, very few have focused on the effects of good local governance on well-being (Cárcaba, González, Ventura & Arrondo, 2017). This is unfortunate, since the municipal (county) sub-level is known to be especially relevant in driving well-being (González, Cárcaba, & Ventura, 2011; Goerlich & Reig, 2021).

The research objective of this paper is precisely to determine the importance of the local level of the public administration on the SWB levels of the population. This is, how good and bad municipal governance and management may affect social well-being. For this purpose, we need to develop appropriate indicators of good municipal governance. Defining and measuring good governance at the municipal level is a complex challenge (Wilde, Narang, Laberge & Moretto, 2009). Most of the literature on public good governance focuses on national standards, which include issues such as democratic participation, law enforcement or political stability. Nevertheless, since all the municipalities within a given country are similar in these regards, they can hardly be responsible for any differences in life satisfaction. For this reason, in this paper we will develop measures of the quality of public management, interpreted as the degree to which the local government operates in an efficient and transparent manner. The measures must be capable of quantifying these issues in the local government level of analysis and apply them to a sufficiently large dataset.

The results reported in this paper will shed light on a largely unexplored issue in the literature. While the impact of good public management at the country level is well established, there is scant evidence about the impact of municipal management. Related research has not focused directly on evaluating the quality of management. For instance, Iglesias-Antelo, López-López and Vázquez-Sanmartín (2021) analyzed the relationship between local governance and QoL from a resource-based perspective. According to their results, controlling strategic resources would be key to improve QoL levels. De Guimarães, Severo, Felix, da Costa and Salmoria (2020) also explored the influence of factors related to smart governance and sustainable development of smart cities. But the effects of the quality of public management in local governments has not been explored previously with the level of detail done in this paper.

In order to fill this important gap, this paper makes a considerable effort in data gathering. The data come from a large survey carried out in Spain in 2013 and 2018. The Spanish territory is politically divided into large regions, called Autonomous Communities (ACs), which are then subdivided into provinces and these into municipalities. ACs have some important competencies on areas which are of critical importance to QoL, such as health services or education. The municipality, in turn, is the closest administration to the citizen and is critical in providing basic public services such as water supply, nurseries, safety, traffic organization, transportation, cultural promotion, protection of the environment, etc. It is difficult to evaluate the success of the municipalities in providing these services effectively and efficiently (e.g., Benito, Faura, Guillamón & Ríos, 2019; Da Cruz & Marques, 2014). However, there are some major principles of good governance at the local level, such as budget management and transparency, which reflect the quality of management or the technical QoG (Bovaird & Loeffler, 2007). Control of corruption is also a major concern at any level of the public administration, and the local level is no exception. We will develop three indicators to account for the quality of public management, the level of accountability and the presence of corruption of public officers. Then, we will test empirically whether the quality of local governance relates to SWB. For this testing we will also incorporate the most traditional variables that are well-known drivers of SWB. Our starting point will be the model of Arrondo et al. (2020), that includes variables of material conditions, quality of life and socio-demographic status. Then, we will add our indicators of municipal public management.

The paper is structured as follows. Section 2 reviews the literature on the quality of local governance, including our operational proposal

for the empirical model. Section 3 presents the data and the methodology used to construct the indicators of public management and to test the relationship between them and SWB. Then the main results obtained are presented in Section 4. The last section contains some concluding remarks and proposals for future research.

## 2. Quality of local governance

The effects of public governance on life satisfaction have been analyzed from both a quantitative and a qualitative perspective. On the quantitative side, research has examined mainly the effects of government size or government orientation (Álvarez-Díaz et al., 2010; Pacek et al., 2019). On the other side, the qualitative approach focuses on the technical QoG. Some authors suggest that the effect of the QoG on life satisfaction may be even greater than the effects of size (Ott, 2010). In this paper, our focus is on good governance in local governments. Therefore, we adhere to the technical quality perspective. In local governments, size effects are not very relevant, since the size of the government correlates greatly with the size of the population with little room to be more or less expansive. Municipal competencies and financing are strongly regulated and, therefore, the political orientation of the government is not as determinant as it is in other levels of the administration.

Since the vast majority of the literature on this topic has focused on comparing countries, we can take it as the starting point in order to develop a more suitable way of measuring the quality of local governance. Research measuring the quality of national governments typically relies on the six composite indicators reported by the World Bank Worldwide Governance Indicators (WGI) Project (Kraay, Kaufmann & Mastruzzi, 2010). The six indicators of the WGI are grouped within three dimensions of governance:

- (a) The process by which governments are elected, monitored, and replaced:
  - 1 Voice and accountability (VA): extent to which the citizens can elect their government, freedom of expression, association, and free media.
  - 2 Political stability and absence of violence (PV): the likelihood of government being destabilized, including violence and terrorism.
- (b) The capacity of governance to effectively formulate and implement sound policies:
  - 1 Government effectiveness (GE): refers to the quality in the implementation of public policy.
  - 2 Regulatory quality (RQ): ability of governments to implement regulations that promote private sector development.
- (c) The respect of citizens and the state for the institutions that govern economic and social interactions among them:
  - 1 Rule of law (RL): the extent to which agents have confidence in the enforcement of law (property rights, police, courts, etc.)
  - 2 Control of corruption (CC): the extent to which public power is exercised for private gain.

The WGI list is comprehensive and includes the major governance issues with which national governments are concerned.<sup>1</sup> It is clear

<sup>1</sup> However, not all the elements of the WGI have been found to have similar effects over well-being. According to Helliwell and Huang (2008), the first two components, VA and PV (quality of democracy), do have a much lower impact (or even no effect) than the last four, GE, RQ, RL and CC (quality of delivery).

though, that not all the elements in this list are relevant at the local government level of analysis. At least in developed countries, three of these indicators (PV, RQ and RL) seem superfluous or unnecessary at the municipal level of analysis. As for PV, the likelihood of destabilization of governments is likely to be a national level issue. Concerning RQ and RL, regulations and the enforcement of law depend largely on national or regional standards.

Voice and accountability (VA) could seem equally unnecessary as an indicator of local government quality. Democratic participation rules, freedom of expression and free press are rights granted in every municipality, once the country is respectful with these rights. However, a broader concept of accountability is indeed a sign of good governance at all administrative levels of analysis. This is the view that defines accountability as the obligation on the part of public officials to report on the usage of public resources and answerability for failing to meet stated performance objectives (Armstrong, 2005). The degree of accountability of a local government can be measured as its ability to disclose relevant and reliable information about outcomes and administrative processes.

The remaining elements of the WGI, government effectiveness (GE) and control of corruption (CC) are indeed very relevant indicators of good governance at the local level of analysis. The quality in the implementation of the public policy (GE) is a critical component of good governance at any level of analysis. The same is true for controlling corruption (CC). For these reasons, we propose an adaptation of the WGI framework to the local government level of analysis, which includes three indicators (one corresponding to each of the dimensions of the WGI):

- (1) Accountability (AC): the degree to which the local government accomplishes the task of disclosing relevant and reliable information about the policies undertaken and the outcomes of such policies. Accountability also refers to the ease with which the citizens are able to access such information. Transparency is the vehicle through which public agencies remain accountable.
- (2) Government effectiveness (GE): quality in policy formulation and implementation, including sound financial management of public income, management of public debt, bureaucratic delays, e-government, etc. This is the most technical component of good governance.
- (3) Control of corruption (CC): the extent to which local governors exercise power in the benefit of the community and not for private gain. Good governance implies ethical behavior and excludes any sort of corrupt practices.

This reduced definition of good governance is similar to what Ott (2010) calls the technical QoG. In contrast, the democratic QoG would relate to aspects such as the rule of law, political voice and regulatory quality. When comparing countries, the technical QoG has been found to be more highly related to happiness than the democratic quality (Helliwell & Huang, 2008; Ott, 2010). Since the democratic quality should be similar across municipalities within a given country, in this paper we focus on the technical quality of local governance.

There is some evidence about the positive effects of local government efficiency (GE) on the quality of life conditions of municipalities (Cárcaba et al., 2017) and on reducing well-being inequalities (Ferrara & Nisticò, 2019). Malinowski and Smoluk-Sikorska (2020) found that a 1% improvement in the financial ability of a district in Poland could generate a 0.4% improvement in the standards of living of the population. In contrast, there is scant evidence on the effects of municipal accountability or corruption on well-being. Cárcaba et al. (2017) found no effect of local government transparency on municipal

quality of life in Spain. In a similar way, Batista, Rocha and Santos (2020) find no relationship between transparency and government performance in Brazilian municipalities. Concerning corruption, (Ferrara and Nisticò, 2019) find a negative effect of corruption on well-being inequalities in Italian regions.

### 3. Data and methods

#### 3.1. Individual subjective well-being and driving forces

The individual SWB data comes from a large survey about living conditions in Spain elaborated by the Spanish National Statistics Institute (INE). About 35,000 individuals are interviewed annually in-person. However, data about quality of life and SWB are only included in a special module every 5 years. The module is now available for years 2013 and 2018. Since our municipal level data refer to year 2013, we will use this year as the base period for analysis. We will employ the new 2018 data in order to confirm the robustness of results and to estimate potential retarded effects of municipal good governance variables on SWB.

Connecting the individual data of the survey to our municipal database is not straightforward. Unfortunately, the INE survey does not provide information about the municipality of residence of the individual. Since the goals of this paper require connecting both datasets, we contacted the INE authorities in order to request the identification of municipalities. The INE agreed to incorporate our municipal variables of interest in the survey database, only for the purposes of this research. Our good government data are restricted to municipalities with population over 20,000. For this reason, the final survey size reduces to 10,860 individuals in 2013 and 11,039 individuals in 2018. For these individuals, complete data for all the variables of interest are available. We must clarify that we do not have a panel of data, since the individuals in the 2013 sample are different from the individuals in the 2018 sample.<sup>2</sup>

The dependant variable of this study is the level of subjective well-being (SWB) of the individual surveyed. This variable is measured on a scale from 0 (not satisfied at all) to 10 (completely satisfied). This is the standard variable commonly used to measure SWB in the literature.

While the objective of this paper is to establish the influence of good municipal governance on individual SWB, we must also consider the individual factors that drive life satisfaction. In a previous paper, our research team explored these effects in depth (Arrondo et al., 2020). From the 10 variables analyzed, the results pointed to four dimensions that condensed the highest positive influence on reported levels of individual SWB: Income and wealth, Housing, Health status and Social connections. Based on this finding, we include these four variables as individual drivers of SWB, measured in the following manner<sup>3</sup>:

#### Material Conditions:

- Income and wealth (IW): annual disposable income.
- Housing (H): estimated value of the dwelling relative to the cost of living.

<sup>2</sup> While the survey is conducted on an annual basis, the welfare module was only included in 2013 and 2018. Every year 25% of the individuals in the sample are replaced with new respondents. Thus, every 4 years the sample is completely renewed. This is the reason why the 2013 and 2018 samples are completely different.

<sup>3</sup> The material conditions variables (income and wealth and housing) are not identical to the variables used in Arrondo et al. (2020). The reason is that we wanted to use exactly the same variables in 2013 and 2018, but some of the indicators were not included by the INE in the 2019 survey. Fortunately, the surveys include two variables which are appropriate to measure these dimensions.

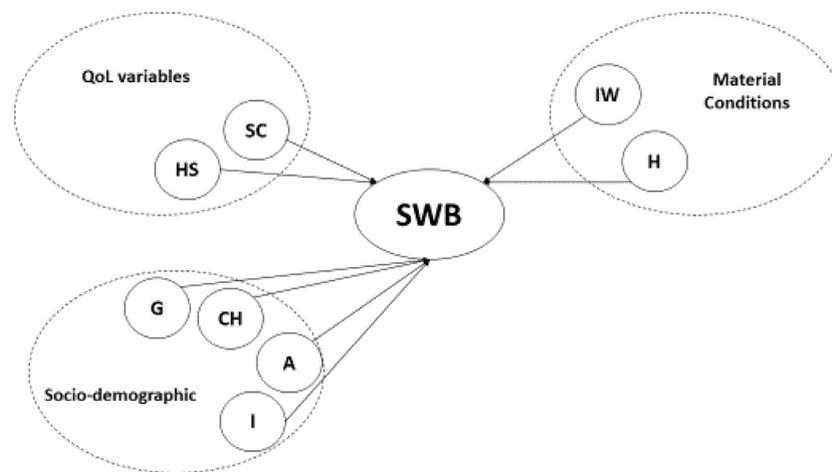


Fig. 1. Drivers of individual SWB (Base model).

#### Quality of Life:

- Health status (HS): perception of own health (0–10 scale).
- Social connections (SC): satisfaction with personal relations (0–10 scale).

Additionally, we need to control for some socio-demographic variables:

#### Socio-demographic:

- Gender (G): 0-men, 1-women.
- Age (A): in years.
- Cohabiting (CH): 0-single, 1-married or cohabiting.
- Immigrant (I): 0-Spanish, 1-foreigning.

This set of eight variables constitutes our base model of the individual drivers of SWB (Fig. 1).

### 3.2. Quality of local governance

Municipal data capturing the relevant dimensions of municipal governance in Spain municipalities is scant. In order to obtain the information required for this paper, we had to undertake an enormous fieldwork. Our research team carefully collected a very large number of municipal variables that relate to good governance. Collecting data for the more than 8000 existing municipalities in Spain would be extremely demanding for the possibilities of this research, and many small municipalities do not report the information required for this study. For these reasons, we restricted our analysis to the 394 municipalities with population over 20,000. This sample covers around 75% of the Spanish population, being, therefore, reasonably representative. For each municipality we collected a considerable volume of raw data referred to year 2013. The raw data were processed in order to obtain a number of indicators that approximated each of the three dimensions of good local governance discussed above. In this section, we briefly explain the process of construction of these indicators:

#### Accountability (AC)

In the political context, the main element that assures good governance is the accountability of public officials (Ackerman, 2004). Ideally, good governments should be accountable for all the resources used and the policies implemented. Public officials should inform about and explain what they are doing (Schedler, 1999). Accountable governments disclose useful and relevant information, so that the

citizens and other specialized users can evaluate the QoG (Figs. 1 and 2).

Therefore, accountability is intimately related with the notion of transparency (Bahur & Grimes, 2014; Kim, Halligan, Cho, Oh & Eikenberry, 2005). Government transparency is the ability to find out what is going on inside government (Piotrowski & Van Ryzin, 2005). Transparency implies that the stakeholders of the government should have access to timely and reliable economic, social and political information (Vishwanath & Kaufmann, 1999). Therefore, it is the basis for accountability and a fundamental mechanism used to improve good governance in public services (Alcaraz-Quiles, Navarro-Galera & Ortiz-Rodríguez, 2014; De Araujo & Tejedro-Romero, 2016; García-Sánchez, Frías-Aceituno & Rodríguez-Domínguez, 2013). Transparency reduces information asymmetry and increases the likelihood that political action is in the best interest of the citizens, reducing agency conflicts (Laswad, Fisher & Oyeler, 2005). Overall, transparent governments govern better (Islam, 2006) and transparency is seen as a cornerstone of democracy (Cucciniello, Nasi & Valotti, 2012).

In order to measure the degree of accountability, we constructed an index of local government online transparency. Our starting point was the Dynamic Transparency Index, elaborated by DYNTRA ([www.dyntra.org](http://www.dyntra.org)). This index evaluates a total of 162 pieces of information which must be readily available in the municipal website in order to consider the municipality as completely accountable. The global index of municipal transparency is simply the percentage of items that are actually available. These items refer to aspects of institutional transparency (government team, municipal laws, organizational structure, planning and heritage), participation and civic engagement, financial transparency, service provision and contracting, town planning and open data. The dimensions relate to Meijer, Hart and Worthy (2018) notion of administrative transparency, which should improve the quality of administrative decision-making, contributing to good governance. The information about these items was available for a good number of the municipalities in our sample. In the case of those municipalities not covered by the DYNTRA database, the required data were obtained from manual inspection of the information contained in their websites.

#### Government efficiency (GE)

This dimension relates to the degree with which the government team implements public policies and achieves the outcomes preferred by its stakeholders in an effective manner, making good use of the resources. This dimension was, by far, the most demanding in terms of data gathering. We started by collecting complete raw financial data for each municipality. The data come from different sources.

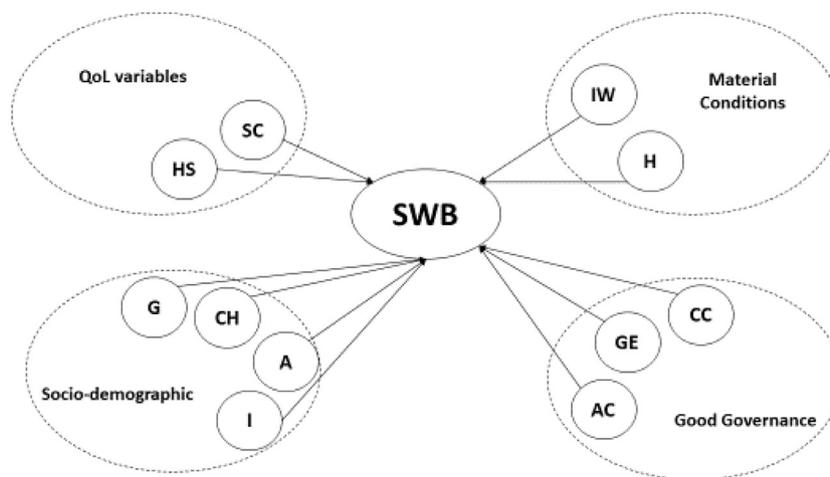


Fig. 2. Drivers of individual SWB (Complete model).

The financial reports of the local entities were obtained from the website *Rendición de Cuentas* (i.e., accountability).<sup>4</sup> We obtained the local budgets data from the Spanish Ministry of Finance (*Ministerio de Hacienda*). Data on municipal rent was taken from the *Instituto Nacional de Estadística* (INE) database. For some small municipalities it was necessary to obtain the required data directly from their websites or even upon request from the local authorities.

Once we had the database completed, we processed the information in order to elaborate a set of 16 partial indicators of government efficiency. These indicators, summarized in Table 1, reflect the financial condition of the municipality and are comparable across municipalities:

For our estimation of the drivers of SWB, we wanted to include a single variable that measured the Government Efficiency (GE). For this purpose, we combined the 16 indicators into a single GE composite indicator. We followed the methodology proposed by González, Cárcaba and Ventura (2018) for the computation of municipal QoL indexes. First, in order to avoid scale problems, the partial indicators are normalized, following the procedure suggested by Cherchye, Moesen and Van Puyenbroeck (2004). After this transformation is done, all the resulting variables vary within the (0,1) interval, with higher values indicating better GE. A composite indicator was then estimated using a standard Data Envelopment Analysis (DEA) model, which incorporates weight restrictions (Charnes, Cooper & Rhodes, 1978; Wong & Beasley, 1990). These restrictions are incorporated in order to assure minimum and a maximum representative effect of each of the dimension on the composite indicator. Following González et al. (2018), the model includes 50% common weighting, with 50% flexibility. The final model estimated is the following:

$$\begin{aligned} & \max \sum_{s=1}^S u_s y_{is} \\ & \text{s.t. :} \\ & \sum_{s=1}^S u_s y_{js} \leq 1, \quad \forall j \\ & u_s \geq 0, \quad \forall s \\ & 0.03125 \leq \frac{u_k y_k}{\sum_{s=1}^{16} u_s y_s} \leq 0.09375, \quad k = 1 \dots 16 \end{aligned}$$

<sup>4</sup> This website is an initiative of the Spanish supervision bodies (the national *Tribunal de Cuentas* and the regional external control agencies). In the case of the municipalities from the Basque Country and Navarra, their supervisory bodies do not report to the cited website and the information was obtained from their regional websites. We also had to check most of the local governments' web sites in these two ACs.

Where  $y_{is}$  is the  $s$  partial indicator of GE in municipality  $i$ . In turn,  $u_s$  is the weight that this indicator has in the composite indicator. The relative importance of each partial indicator is constrained between 3.125 and 9.375%. This assures that, at least, 50% of the weighting is common for all the municipalities ( $0.03125 \times 16 = 0.5$ ). In turn, each partial indicator can be weighted as much as 0.09375, which provides 50% flexibility around the equal weighting scheme. The resulting index of GE will take values within the (0,1] interval. Municipalities with value 1 will be the ones located on the best financial condition DEA frontier. Municipalities with values lower than 1 have a worse financial condition, which reflects less effective public management.

Control of corruption (CC)

Corruption can be understood as the "misuse of public office for private gain" (Sandholtz & Koetzle, 2000, p. 32). Corrupt civil servants reduce the citizens' return on taxes, since some of these resources are deviated for private gain. In corrupt societies, politicians and bureaucrats often divert some of the resources and public money into their own pockets (Warren, 2004). Indirectly, long-term corruption may also affect the satisfaction with life through its negative effects on the trust in the political and legal system (Bennett, Nikolaev & Aidt, 2016; Tay, Herian & Diener, 2014). The academic literature agrees that corruption has widespread negative effects on the economic and social well-being of countries and individuals (e.g., Mauro, 1995). Some authors even pose that the quality of government and institutions can be approximated by the level of perceived corruption (Rodríguez-Pose & Maslauskaitė, 2012; Tavits, 2008). Political corruption and its perception hinders economic and social development (Podobnik, Shao, Njavro, Ivanov & Stanley, 2008), negatively affecting the quality of government and reducing SWB through its negative impact on economic performance, inequality and crime (Montinola & Jackman, 2002; Rose-Ackerman, 1999; Tavits, 2008). Furthermore, the economic and social costs of corruption can reduce the ability of individuals to satisfy their psychological interests and needs (Ryan & Deci, 2001). Beyond worsening the economy and the quality of public services, the level of corruption can also have a negative influence on SWB by eroding universal principles of justice and equality (Ryan & Deci, 2001). For instance, Welsch (2008) found that the direct effect of corruption on citizens' well-being is much larger than the indirect effect of corruption through reduced income. Interestingly, the negative effect of national corruption in life satisfaction is often more pronounced in Western countries compared to non-Western nations (Tay et al., 2014).

It is very complicated to obtain a variable of corruption in local governments. Cross-country studies typically rely on indexes of perceived corruption, such as the Corruption Perception Index. Given

**Table 1**  
Partial indicators of government efficiency.

Indicator:	Description:
1 <b>Implementation of the budget (expenditure)</b>	Net recognized liabilities over total budgeted expenses. <i>Indicates how well the expenditure of the municipality was budgeted and then implemented during the year. Higher values are indicative of better management.</i>
2 <b>Implementation of the budget (income)</b>	Net recognized income over total budgeted income. <i>Indicates how well the income of the municipality was budgeted and then implemented during the year. Higher values are indicative of better management.</i>
3 <b>Due payments</b>	Payments done over recognized liabilities. <i>Indicates effectiveness in facing liabilities. Higher values indicate better financial condition.</i>
4 <b>Average payment period (suppliers)</b>	Average number of days to pay suppliers. <i>Lower values indicate better financial management.</i>
5 <b>Income collection</b>	Income actually collected over recognized income. <i>Higher values indicate more diligent billing and collection management.</i>
6 <b>Average collection period</b>	Average number of days to collect amounts due. <i>Lower values show better administrative and financial management.</i>
7 <b>Budget amendments</b>	Number of changes done to the budget during the execution period. <i>Fewer amendments indicate better financial management.</i>
8 <b>Tax burden</b>	Taxes over disposable income. <i>This variable is relevant when connected with the following one (per capita expenditure). Given the level of services provided (accounted for by per capita expenditure) lower taxes are indicative of better management.</i>
9 <b>Per capita expenditure</b>	Public expenditure per capita <i>Once the tax burden is accounted for, more expenditure per capita would result in better services for the citizens. It is indicative of the coverage of public services.</i>
10 <b>Importance of tax income over total budgeted income</b>	Extent to which taxes are enough to cover the income required to face committed expenditure. <i>Higher values indicate better financial condition of the local government.</i>
11 <b>Importance of capital expenditure over total expenditure</b>	Investment part of expenditure. <i>It shows the capacity of the local government to do investment, once current expenditure is covered. Higher values indicate better financial condition.</i>
12 <b>Debt payment and interest expenses</b>	Debt burden of the municipality. <i>Lower values indicate better financial condition.</i>
13 <b>Debt per capita</b>	Debt burden relative to the population of the municipality. <i>Lower values indicate better financial condition.</i>
14 <b>Net savings</b>	Solvency indicator that represents the extent to which the municipality can face new debt, given its financial structure. <i>Higher values indicate better financial condition.</i>
15 <b>Cash surplus</b>	Solvency indicator that shows the ability of the municipality to face liabilities. <i>Positive surplus can be used to mitigate liabilities. Negative surplus will imply reduction in future expenditure. Therefore, higher values indicate better financial condition.</i>
16 <b>Liquidity</b>	Current assets divided by current liabilities. <i>It is indicative of the working capital of the municipality, showing the ability to face current payments. Higher values indicate better financial condition.</i>

the absence of an index of local corruption in Spain, we analyzed, one by one, all the available online information on confirmed cases of corruption reported by the media in our municipalities. Even though some cases seem to be more relevant than other cases (in terms of economic impact), we were not able to obtain precise economic evaluations of all the cases of corruption. Evaluating the relative importance of different corrupt practices requires information that is only available in a few cases. For this reason, we preferred to simply use a dummy variable that takes the value 0 when at least 1 member of the government team was legally found guilty in a case of corruption during the period 2008–2013. When no cases of legally prosecuted corruption were reported, the variable takes the value 1, indicating a good record on control of corruption (CC).

The three good governance variables would complete our model of the driving forces of individual SWB. To the individual drivers considered in the base model (i.e., socio-demographic variables, material conditions and QoL variables), we add now the three good governance variables presented in this section (Fig. 2).

#### 4. Results

Table 2 displays a description of the data. The sample is almost equally split by gender and the average age is around 44. The great majority are Spanish nationals, with around 60% cohabiting. Regarding SWB, the variable satisfaction with life has an average of 6.97 in

2013, rising substantially to 7.43 in 2018. This result may be related to the recovery of the Spanish economy during that period.

Regarding the Material Conditions, the average income and wealth reported for 2013 and 2018 was 37.86 and 41.25, respectively (data expressed in thousands). In contrast, the housing variable remained stable. As for the Quality of Life variables, (social connections and health status), both dimensions are well evaluated on average in 2013 and experience a notable surge in 2018. The variables of Good Local Governance are only observed in 2013. We observe an average of 0.59 for accountability, 0.51 for government efficiency and 0.52 for control of corruption. Especially worrying is the presence of cases of corruption in 48% of the municipalities.

For the estimation of the empirical model, we first took the 2013 data. Due to the structure of the data, the individuals included in the sample are not iid. In many cases, more than one individual from the same household is interviewed. Considering this particular setting, consistent estimation requires using a clustered error regression model in which the households are the clusters.

Results are shown in Table 3. Starting with the socio-demographic variables, we see a negative relationship between ageing and life satisfaction. This negative relationship is softened by a positive quadratic coefficient, which indicates a progressive reduction of the slope, creating a quadratic U-shaped effect. This relationship has been extensively documented in previous literature (Blanchflower & Oswald, 2008; Clark & Oswald, 1994; Ferrer-i-Carbonell & Gowdy, 2007; Sujarwoto, Tampubolon & Pierewan, 2018). As

**Table 2**  
Descriptive statistics\*.

Variable	Average 2013	Average 2018	Min	Max
<b>SWB</b>				
Satisfaction with life	6.97 (1.98)	7.43 (1.75)	0	10
<b>Socio-demographic</b>				
Age	43.14 (13.06)	44.27 (13.28)	18	65
Immigrant	0.10 (0.30)	0.14 (0.34)	0	1
Gender (female)	0.52 (0.49)	0.51 (0.49)	0	1
Cohabiting	0.62 (0.48)	0.60 (0.49)	0	1
<b>Material conditions</b>				
Income and wealth	37.86 (24.34)	41.25 (26.60)	0	314.63
Housing	0.78 (0.43)	0.77 (0.48)	0.035	6.25
<b>Quality of Life</b>				
Health status	7.39 (1.94)	7.56 (1.95)	0	10
Social connections	7.81 (1.70)	8.26 (1.47)	0	10
<b>Good Local Govern.</b>				
Accountability	0.59 (0.22)	-	0.02	0.93
Government efficiency	0.51 (0.29)	-	0	1
Control of corruption	0.52 (0.40)	-	0	1
N	10,860	11,039		

\*Standard deviations in brackets.

individuals grow older, they experience a decline in previous levels of life satisfaction, which then slowly increase again. Consistently also with previous literature (Safi, 2010; Shen & Takeuchi, 2001; Vieno, Santinello, Lenzi, Baldassari & Mirandola, 2009) immigrants show lower levels of life satisfaction as compared to Spanish nationals, even when accounting for their material conditions status. In the line of the findings reported by Zweig (2015), women tend to show higher levels of life satisfaction, all else being equal. Finally, cohabiting with a partner has a very positive and strong effect on the self-perception of well-being. This result is also a stable finding in past research (Argyle & Furnham, 1983; Brown, 2000).

Regarding the material conditions and quality of life variables, all of them have the expected positive sign and are statistically

**Table 3**  
Drivers of Subjective Well-Being (2013).

	Coefficient	Beta	t-test
Intercept	1.69		(7.3)***
<b>Socio-demographic</b>			
Age	-0.048	-0.319	(-5.7)***
Age <sup>2</sup>	0.001	0.253	(4.6)***
Immigrant	-0.217	-0.033	(-3.2)***
Gender (female)	0.119	0.030	(4.2)***
Cohabiting	0.464	0.114	(10.2)***
<b>Material conditions</b>			
Income and wealth	0.011	0.138	(14.3)***
Housing	0.262	0.023	(2.4)**
<b>Quality of Life</b>			
Health status	0.224	0.219	(19.9)***
Social connections	0.467	0.400	(36.2)***
<b>Good Local Governance</b>			
Accountability	0.057	0.006	(0.62)
Government efficiency	0.187	0.028	(2.6)**
Control of corruption	0.060	0.015	(1.4)
R <sup>2</sup>	0.315		

\*Significance level 0.1; \*\* Significance level 0.05; \*\*\*Significance level 0.01.

significant at conventional levels. As shown in (Arrondo et al. 2020; Arrondo, Cárcaba & González, 2021), income, housing, health status and social connections determine to a good extent the level of SWB of an individual. The QoL variables show the largest Beta coefficients, which indicate that their effect on SWB is much larger than the effect of the material conditions variables. It is remarkable that the Beta coefficient of social connections is almost twice as large as the coefficient of health status and three times larger than the Beta coefficient of income and wealth. Social connections make big differences in the satisfaction with our own lives.

The main innovation of this paper is that, apart from the individual drivers of SWB, we also included three variables that measure different aspects of Good Municipal Governance. These variables are expected to relate positively to individual SWB. Not surprisingly, the results show a very strong and significant effect of Government efficiency and SWB. Citizens living in a municipality which is well managed are happier. The effect may come directly from the improvements that can be achieved in the provision of public services with a better management. Accountability is also positively associated with SWB, but the effect is not statistically significant. Theoretically, when the actions undertaken by local government teams are appropriate and related to the expectations of the citizens, it should be easier to be transparent and remain accountable. However, the results obtained do not validate this hypothesis. Similarly, the effects of controlling corruption are low and insignificant. The existence of cases of corruption affecting members of the government team is not a relevant driving force of individual SWB. This is, as long as corruption does not have an impact on material conditions or QoL variables in the short run, no effect is observed on personal welfare.

There may be different explanations for this disappointing and counterintuitive finding about corruption. One of them is that in some cases there may be links between municipal corruption and economic growth. Not that corruption generates or fosters economic growth, but economic growth will open new opportunities for corrupt officers' misbehavior. Some of the most notable cases of municipal corruption in Spain have occurred in territories with high economic growth. It seems that, as long as the economy is working well, corruption is not a major concern. Another plausible explanation is that the effects of municipal corruption on individual welfare are not immediate. It may take some time until the effects of corrupt practices have a noticeable impact in terms of increased municipal debt, worse provision of public services, increased taxes, etc. Furthermore, citizens may need some time to realize of past corrupt practices. Legal processes are slow and confirming a case of corruption requires time.

In order to test for the potential retarded effect of corruption on individual SWB, we replicated the model using the 2018 welfare data. Municipal data of good governance still refer to year 2013. Therefore, the dependant variable (SWB) refers to a period 5 years after the measures of municipal good governance. The other explanatory individual level variables (socio-demographic, material conditions and quality of life variables) refer to period 2018. Table 4 contains the results.

The only important change with respect to the socio-demographic variables is that the effects of gender and immigration on SWB have lost statistical significance. In 2013, women were significantly happier than men. In 2018 there is no significant difference between genders. This may be indicative of the increase of female expectations about their own lives. Paradoxically, the feminist movement towards gender equality may generate an increase in women conditions of life but a decrease on perceived SWB, equating women to men downwards. The inexistence of an immigration effect in 2018 can be a consequence of the effects of the economic crisis. Many immigrants returned to their countries of origin after the financial crisis. The immigrants in the sample are the ones that survived that process and

**Table 4**  
Drivers of Subjective Well-Being (2018) with retarded good governance variables (2013).

	Coefficient	Beta	t-test
Intercept	2.11		(9.6)***
<b>Socio-demographic</b>			
Age	-0.044	-0.336	(-5.7)***
Age <sup>2</sup>	0.001	0.278	(4.9)***
Immigrant	0.038	0.007	(0.74)
Gender	0.022	0.006	(0.90)
Cohabiting	0.493	0.138	(12.1)***
<b>Material conditions</b>			
Income and wealth	0.009	0.136	(12.0)***
Housing	0.184	0.022	(2.0)**
<b>Quality of Life</b>			
Health status	0.249	0.277	(23.6)***
Social connections	0.444	0.374	(33.8)***
<b>Good Local Governance</b>			
Accountability	0.101	0.013	(1.2)
Government efficiency	0.117	0.020	(1.7)*
Control of corruption	0.175	0.050	(3.3)***
<b>Change of Government</b>			
Change of corrupt Gov.	0.179	0.049	(3.1)***
Change of non-corrupt Gov	0.041	0.010	(0.89)
R <sup>2</sup>	0.335		

have a better rooting in Spain. This collective is much more similar to the regular Spaniard and no distinctive effect is observed in 2018. The remaining socio-demographic variables have the same effects and significance. There is a U-shaped effect of ageing and a very strong positive effect of cohabitation.

Material conditions and quality of life variables maintain their positive and significant influence on SWB, although there is a notable increase in the Beta coefficient of health status. Overall, the results confirm the robustness of the model estimated with the data of 2013, since (apart from the case of gender and immigration) the variables operate in the same directions.

With respect to the (retarded) variables of municipal good governance, the results point to very important effects. The only stable result is the absence of a significant effect of accountability. This makes sense, since the effect of this variable in 2013 was insignificant, and there is no reason to expect a retarded effect of past transparency in current SWB. The effect of government efficiency is still positive and significant, but loses importance with respect to the immediate effect it had in 2013. Again, it makes sense that the effectiveness of technical good governance has a much deeper impact in the short than in the long run. In other words, how efficient and transparent a local government was 5 years ago only has a residual current impact on the population today.

The most striking finding in the results of Table 4 is that the effect of corruption on SWB is now large and highly significant. The individuals living in a municipality that did not report cases of government corruption up to 2013 show a significantly higher level of SWB in 2018. This finding confirms that the impact of corruption on the population is not immediate. The long run effects of corruption imply a shorter provision of public services or increasing tax pressures and, when these effects take place, the individuals feel the reduction on personal welfare. This, in turn, would explain why some very notorious cases of corruption do not have an immediate electoral punishment. It simply takes time to notice and suffer the negative effects of corrupt government practices.

To further explore the implications of corruption on perceived SWB, we incorporated two new variables in the model. These variables measure whether corrupt and non-corrupt municipalities removed the government team after the municipal elections that took place in 2015. Not surprisingly, we find that municipalities that did remove corrupt governments improved the SWB of the population very significantly. Interestingly, the effect is similar in size to the

effect of controlling corruption. Thus, the populations that are able to democratically remove corrupt governments may end up reaching similar SWB levels as those that were able to control corruption practices from the outset. There are various explanations for this result. The most obvious is that the new government will have a proactive attitude to prosecute the corruption of the past and may take measures to revert the losses suffered. Additionally, individuals may have a positive feeling about getting rid of corrupt officers and this may positively alter the self-perception of SWB. What is clear is that it is always positive to replace corrupt governors at all levels of the administration. In order to check whether this is simply an effect of government replacement, we also included a variable that represents the replacement of non-corrupt governments. As expected, we find no significant effect of replacing the government team.

## 5. Concluding remarks

In the last decades, a number of researchers have explored the driving forces of SWB (Ngoo, Tey & Tan, 2015). At the micro level several factors have been found as major drivers: income and wealth (Plouffe & Tremblay, 2017), perceived trustworthiness in state agencies (Mueller, 2009), health status (Ngamaba, Panagioti & Armitage, 2017) or social connections (Arrondo et al., 2021). At the macro (country) level, research has found that differences in SWB depend on issues such as democracy (Inglehart & Klingemann, 2000) economic development (Bjørnskov, 2003), life expectancy (Veenhoven, 1996), unemployment (Gallie & Russel, 1998) or institutional quality (Bennett et al., 2016). Intermediate levels of analysis, regional or municipal, have received lower attention.

In this paper, we focus on the micro and intermediate levels of analysis. Building on existing literature, we specifically address the influence of good municipal governance on individual SWB. We define good municipal governance as the combination of three factors: accountability, government efficiency and control of corruption. The measurement of these dimensions is complex and requires careful collection of raw data. We have been able to develop a very complete data set.

The results confirm the influence of the major individual drivers of SWB, such as income and wealth, housing, health status and social connections. We find that the QoL variables (health status and social connections) have a much larger impact on SWB than the material conditions variables (income and wealth and housing). Social connections seems to be the single major driver of SWB at the individual level. In turn, socio-demographic factors such as age, gender, nationality or marital status are also relevant factors. With respect to ageing, the characteristic U-shaped form suggested by Sujarwoto et al. (2018) was confirmed. We also find a very positive effect of cohabitation. However, our results are inconclusive with respect to gender and nationality. While women were significantly happier (*ceteris paribus*) in 2013, this effect disappears in 2018. We think that a rise in female expectations about life may paradoxically equate women to men downwards. In contrast, immigrants declared lower levels of SWB in 2013 but not in 2018, which means that they have equated upwards to Spanish nationals. This may be due to the effects of the economic crisis. Many immigrants (those in worse labor and economic conditions) returned their home countries and the ones that stayed are more happily integrated in the Spanish society.

With respect to the good municipal governance variables, our results show very interesting and novel findings. First, it is noticeable the scant effect of accountability on perceived SWB. Accountability, has a positive but insignificant effect on individual happiness. Therefore, despite the efforts of governments and institutions to foster transparency, this doesn't seem to reflect directly on the lives of the citizens. The second component of good governance, which we call governance efficiency, does have a positive and very significant effect on SWB. This component is related to what Ott (2010) calls technical

QoG, i.e. the ability of the local government to display an effective and sound management of the finance of the municipality and the provision of public services. Good management has an immediate impact on SWB. In contrast, the effects of corruption are indirect. We find no immediate effect of corrupt municipalities, but we do find an important and very significant retarded effect of corruption. The citizens of municipalities for which public officers were found to be engaged in corrupt practices in the period previous to 2013, don't experience a negative effect on individual SWB on that period. However, they do experience a strong negative impact on SWB five years after. The effects of corruption are deferred on time. This effect can be softened if the citizens are able to change the political party that was implicated in corruption. In those cases, the levels of SWB can even restore to the original ones.

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### Declaration of Competing Interest

The authors certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

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