Business Creation in Portugal: Comparison between the World Bank Data and *Quadros De Pessoal* [1]

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Abstract
Portugal has some of the highest business entry rates when compared to other countries, according to Eurostat, Statistics Portugal and the OECD Entrepreneurship Indicators Programme. We look at business creation in Portugal, from 2000 to 2007, by approaching two other complementary data sources, the World Bank Group Entrepreneurship Survey, based on official Portuguese business register's and the universe of active employer enterprises, obtained by applying to the dataset Quadros de Pessoal, the methodology and definitions of the Eurostat/OECD´s "Manual on Business Demography Statistics". This allows us to address entrepreneurship indicators comparability issues and exploit complementarities to support entrepreneurship patterns and trends previously identified by other national and international sources. We highlight the importance of considering information other than business registries, in particular when calculating business entry rates. Datasets where economically active units can be identified provide a better proxy for the true level of business creation and activity in Portugal.

Keywords: Entrepreneurship, Business registries, Business Creation, Portugal, World Bank.

JEL Classification: M13

1. Introduction

Portugal has some of the highest firm entry rates when compared to other countries (INE, 2009; Eurostat, 2009; OECD/Eurostat 2009; Cabral 2007). According to Eurostat´s September 2009 release of the "Business demography: employment and survival", Portugal had in 2006, the third highest entry rate in a pool of 21 countries and according to the November 2009´s release of the Eurostat/OECD's "Measuring entrepreneurship, a collection of indicators" (2009), Portugal had the highest birth rate in the service sector among the 22 portrayed OECD countries.

We look at business creation in Portugal, from 2000 to 2007, by comparing two other different data sources, the business registries from the World Bank Group Entrepreneurship Survey (WBGES), based on

official Portuguese business register's from the Ministry of Justice, and the universe of active employer enterprises (enterprises with more than 1 employee), obtained from the dataset *Quadros de Pessoal* (Employment Administrative Records) from the Portuguese Ministry of Labour and Social Security (GEP, MTSS).

This work allows us to address entrepreneurship indicators comparability issues, which are indeed an issue in most countries and exploit complementarities to support entrepreneurship patterns and trends previously identified in other studies (Bartelsman et al., 2004, 2005a and 2005b; Klapper et al., 2008; INE, 2009; Eurostat, 2009; OECD/Eurostat 2009; Cabral, 2007).

Following the previous brief introduction, this work approaches the main comparability issues concerning business demography and moves on to a description of the datasets methodologies, definitions and indicators in part 3. Part 4 highlights the main discrepancies in entrepreneurship indicators evolution between the two datasets, part 5 provides some international comparisons with other data sources and finally part 6 concludes.

2. Brief overview of business demography in Portugal

According to *Quadros de Pessoal* (according to Eurostat/OECD´s methodology, 2007), the population of active employer enterprises has been growing steadily in Portugal over more than 20 years, especially due to the contribution of smaller sized firms. Employer enterprise births[2] have increased at an annual average growth rate of 4,3%, from 1987 to 2007, with periods of stronger growth, such as from 1996 to 2000 (14,9%) and deceleration, from 2000 to 2007(-2,3%). After 2000, entry rates have been clearly slowing down throughout all regions, sectors and size classes (Sarmento and Nunes, 2010; GEE, 2010).

The increasing predominance of small and medium sized firms is clearly observable, in line with what seems to be a general tendency in other developed countries. Smaller enterprises are being created at a faster pace, in particular in the 1-4 size class, in most regions and in all economic sectors (Sarmento and Nunes, 2010). Moreover, according to Eurostat (2009), Portugal presents the highest share of enterprises births in the 1-4 employees' size class (average 2005 and 2006). Portugal is increasingly a service-based economy, where the service sector occupies the pole position in enterprise creation since 2003. According to the OECD/Eurostat (2009), in 2006, Portugal had the highest birth rate in the service sector, above 20 other countries.

Various studies have documented substantial rates of entry (and exit) in a number of countries (Klapper et al., 2008; Cabral, 2007; Bartelsman, 2005a; Bartelsman, 2005b; Bartlesman, 2004; Masso et al., 2004; Scarpetta et al., 2002; Ahn, 2001; Caves, 1998). Among the European countries, Portugal has one of the highest records of new

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[2] According to the Eurostat/OECD (2007) definitions, a birth amounts to the "creation of a combination of production factors with the restriction that no other enterprises are involved in the event". Births do not include entries into the population which result from break-ups, spit-offs, mergers, restructuring of enterprises or reactivations of units which are dormant within a period of two years[2]. Thus, this population consists of enterprises that have at least one paid employee in its birth year and also of enterprises that, despite existing before the year in consideration, were below the one employee threshold.

firms relatively to the stock of existing enterprises, even when other universes and methodologies are considered (OECD/Eurostat, 2009; Eurostat, 2009; INE 2009; Scarpetta et al., 2002; Cabral, 2007; Bartelsman, 2004). The analysis of the growth rate of Portuguese employer enterprise births shows a considerable level of turnover[3] and volatility during the period 1987-2007. Churn rates, given by the sum of birth and death rates, exceed 23% throughout the period of 1987 to 2005, and go over 30% in the period 1989 to 1989, in 1994 and from 2000 to 2002. Thus, firm turbulence is quite high in Portugal when compared to other countries and has been found to be the most significant variable in explaining post-entry survival of Portuguese firms (Nunes and Sarmento, 2010).

3. Comparability issues between datasets

Business demography statistics requires a statistical or administrative business register that serves as the primary source of information (Eurostat/OECD, 2007). But we must be aware its potential limitations, in the context of national and international comparability, the main being that the appearance of a business on an administrative or business register does not necessarily coincide with the date at which the business first became active. It does not necessarily follow that after being registered, a business will in fact engage in economic activity. It may instead remain inactive permanently[4].

At the international level, various information sources on business creation co-exist, which include statistical agencies, tax and labour agencies, chambers of commerce and private vendors. Even within public entities, there is great heterogeneity in terms of *inter alia*, prevailing regulations, methodologies and implementation of digital administration procedures (Klapper et al., 2008). Databases that allow international comparisons are still being developed and suffer from various compilation and methodology problems, thus requiring further harmonisation (Ahmad, 2006), with international rankings providing fragile meaningful guidance to policy makers (Kukoc, 2008).

Even at a national level, comparability between different datasets on entrepreneurship can be a complex exercise, due to various factors such as different sources for data compilation (surveys, administrative data collected from a group of external entities which have not had a stable universe for compilation over a given time horizon), different methodologies for compiling the data, limitations regarding data on firm closures, the choice of different sections of the NACE classification of companies for identifying target populations, the lack of continuity in the inclusion of sole proprietors throughout time into the enterprise population, and the

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[3] Turnover is a measure of firm churning. It is defined as the sum of birth and death rates, that is the percentage of active firms that either enter or exit the market in a given year.
[4] In some countries, administrative registers only capture businesses after they have already been active for some time, usually because businesses need to exceed some threshold before registration, this being the reason why so many small and micro enterprises are often excluded from business registers. The existence of thresholds in business registers is perhaps the most important factor for the existence of differences in business demography statistics. In the EU member states, there is already a considerable degree of harmonisation, following the adoption of a business registers regulation in 1993, which has brought countries much closer together (Eurostat/OECD, 2007). For EU Member States, recent regulations concerning Business Registers have brought countries even closer (Eurostat/OECD, 2007).

incorporation of the self-employed into the population of the sole proprietors, thus making them undistinguishable. Often, a combination of the above mentioned factors, hinders comparability and culminates in business demography series breaks.

In Portugal, there are various actors involved in the collection and publication of businesses and establishments' information, through surveys and administrative collection of information. Business statistics are available to the public, through different publications. The *Gabinete de Estratégia e Planeamento* of the Portuguese Ministry of Labour and Social Security publishes business statistics data based on *Quadros de Pessoal* and releases studies such as the *Colecção Cogitum* and *Cadernos de Sociedade e Trabalho.*

Statistics Portugal is the most important entity, producing and publishing official information within the national statistical system. It has recently released "Demografia de Empresas 2004-2007", "O Empreendedorismo em Portugal - Indicadores sobre a Demografia das Empresas", but has also been publishing business data in the annual regional and national "Anuários Estatísticos" and in "Empresas em Portugal". The formerly mentioned publications have had, in the past, different sources of information. For instance, "Estatísticas das Empresas" were based on Structural Business Surveys (*Inquérito Harmonizado às Empresas),* until 2004. The "Anuários Estatísticos" were based on the integrated register of companies (*Ficheiro de Unidades Estatísticas*, FUE), until 2004. From 2005, both the former and "Empresas em Portugal" were then based on the Integrated System of Business Accounts[5] (*Sistema Integrado de Contas*, SCIE), which has at the present moment, as its main data source, the "Simplified Business Information" (*Informação Empresarial Simplificada* or IES[6]).
In fact, until the businesses statistics reference year of 2004, several statistical projects coexisted in the field of annual business statistics: Structural Business Survey (Annexes I to IV of Structural Business Statistics (SBS) Regulation), the Business Demography (Specific annex of SBS Regulation), the Integrated System of Business Accounts (SCIE), which concerned national data demands and the Foreign Affiliates Statistics (based on the FATS Regulation).
From 2005, these four areas were integrated in one unique system, the SCIE, which uses as inputs, the Structural Business Survey and fiscal data. The main advantages of the new system are the full consistency of results between the various regulations of business statistics and the expansion of the amount of information available.

From March 2007 onwards, and for 2006 as a reference year, Portuguese enterprises have started to transmit the set of annual compulsory data for fiscal and statistical purposes, for compliance with the settlement of accounts obligation, known as the IES (Cordeiro, 2007). This information has been integrated into the SCIE. The statistical system is now able to obtain all structural business statistical data from a single source. The IES has allowed the reorientation of the statistical activity towards further data consistency and simplification.

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[5] The SCIE contemplates sections B to O (excluding section J and division 01) of the NACE classification of companies (CAE Rev. 2.1.).
[6] The Portuguese businesses were obliged to deliver to four different public services, information concerning is annual activity. The IES is a new way for companies to deliver information on-line to public services, through an electronic form, by using a totally dematerialized procedure. This service allows abiding, at once, to a series of legal obligations (Chumbau, et al., 2007).

As observed in Figure 1, the number of enterprises in the WBGES and the data from "Anuários Estatísticos de Portugal" are identical, from 2000 to 2003. This happens because the data source from the Statistics Portugal publication, "Anuários Estatísticos" was based on the FUE, which contained legally active businesses. From 2004 onwards, the *Sistema Integrado de Contas* (SCIE)[7] was introduced and the publication of "Anuários Estatísticos de Portugal", among others, were then based on the SCIE, causing a series break. We can observe throughout time, a gradual convergence of the data from the business registries with the data from the SCIE.

The main problems of comparability encountered between the two datasets considered in this study, the WBGES and the *Quadros de Pessoal,* which was subject to a specific cleaning according to the Eurostat/OECD´s methodology (we shall refer to this dataset as QP Eurostat/OECD) are threefold. The first is related to the nature of the source of information (and its administrative process of information collection). The second relates to the methodological treatment to which *Quadros de Pessoal* was subject due to the application of the Eurostat/OECD Manual (2007). Finally, the last has to do with analysis issues, resulting from the application of the same exact definitions to two distinct populations. Keeping these differences in mind and providing we use the same indicators, we are still able to draw useful comparisons from these two sources of information.

Figure 1 - Number of "enterprises" in Portugal, according to different data sources
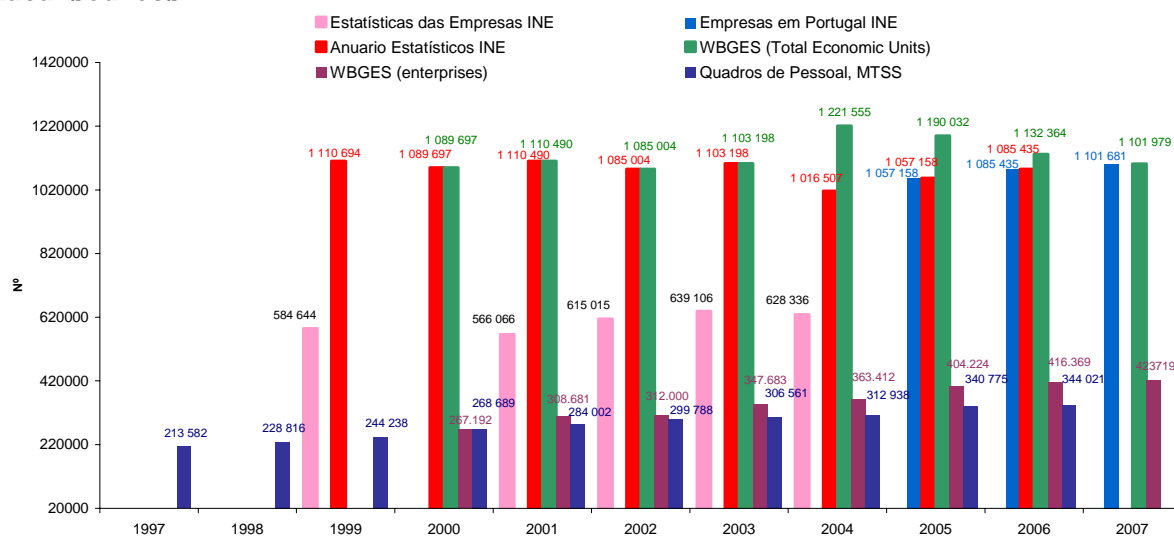
Source: Statistics Portugal (INE) based on the publications: "Estatísticas das Empresas" (source: *Inquérito às Empresas Harmonizado* (IEH)), "Anuários Estatísticos" (source: *Ficheiro de Unidades Estatísticas* (FUE), and from 2004, *Sistema Integrado de Contas* (SCIE)), "Empresas em Portugal" (source: *Sistema Integrado de Contas* (SCIE)); based on *Quadros de Pessoal* (employer enterprise population only) after the application of the Eurostat/OECD methodology, from GEP, Ministry of Labour and Social Security, Portugal; World Bank Entrepreneurship Survey based on data from the Portuguese Ministry of Justice (for total economic units and enterprises).
Note: The data from "Anuários Estatísticos" has a series break in 2004.

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[7] From 2004, the SCIE includes not only corporations, but also sole proprietors and the self-employed.

4. Datasets description

Most empirical studies on regional variations concerning entry and exit rates at the international level are either based on survey data like the Global Enterpreneurship Monitor (Acs et al., 2008), business data (Hoffman and Junge, 2006), business registration data (Klapper et al., 2008; Klapper et al., 2009) or other administrative data or a mix of the previous (Baterlsman et al., 2005; Baterlsman et al., 2005b; Scarpetta et al., 2002; Ahn, 2001).

In this study, we compare administrative data from WBGES (based on business registers from the Portuguese Ministry of Finance), with administrative data based on a mandatory survey of the Portuguese Ministry of Labour and Social Security called *Quadros de Pessoal*. Next, we proceed to a brief description of both datasets.

4.1. Methodology and definitions

The last World Bank Group Entrepreneurship Survey (WBGES 2008) has collected data from 100 countries, directly from the national business registrars[8], on the number of total and newly registered enterprises from 2000 to 2007. In order to make the data comparable across countries of different legal and economic systems, the definition of entrepreneurship includes only business that operate in the formal sector, those being limited liability corporations (LLCs) or its equivalent in different legal systems (World Bank, 2008). The unit of measurement of entrepreneurship considered is "any economic unit of the formal sector incorporated as a legal entity and registered in a public registry, which is capable, in its own right, of incurring liabilities and of engaging in economic activities and transactions with other entities" (Acs et al., 2008). Entrepreneurship is thus defined as the "activities of an individual or a group aimed at initiating economic activities in the formal sector under a legal form of business" (Klapper et al., 2008).

The *Quadros de Pessoal*, is an annual mandatory survey conducted in Portugal by the Portuguese Ministry of Labour and Social Security (*Gabinete de Estratégia e Planeamento do Ministério do Trabalho e da Segurança Social)*, which provides a rich matched employer-employee dataset. Our dataset resulted from the application of the entrepreneurship definitions and methodology of the Manual on Business Demography Statistics (Eurostat/OECD, 2007) to the *Quadros de Pessoal* dataset, which is the main data source in Portugal for the universe of employer enterprises. Accordingly, the analysis focuses on a specific subsample of *Quadros de Pessoal,* consisting on the population of active enterprises only, with at least one paid employee, the so-called *employer enterprise population*.

An entry amounts to the "creation of a combination of production factors with the restriction that no other enterprises are involved in the event". This means that it occurs only when an enterprise starts activity.

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[8] The data on Portugal originates from the *Instituto dos Registos e Notariado* of the Ministry of Justice. The World Bank (WB) also gathers information on registries functioning and structure. The WBGES 2008 includes new data on the impact of modernization of business registries on business creation. The collection process involved telephone interviews and email/fax correspondence with business registrars in over 120 countries.

For measures based on the "1 or more employees" threshold, active enterprises only include enterprises that had 1 or more employee at any time during the reporting period[9]. Thus, an enterprise entry is only recorded when a first employee is recruited, subject to the rules on mergers, acquisitions, reactivations being met[10]. Moreover, we do not include entries into the population which result from reactivations of units which were dormant within a period of two years. Our population consists of enterprises that have at least one paid employee in its birth year and also of enterprises that, despite existing before the year in consideration, were below the one employee threshold. An employer enterprise entry is thus counted in the dataset as a birth of an employer enterprise after it recruits its first employee, while complying with the above mentioned requisites. We shall refer to this new *employer enterprise* dataset, which follows the Eurostat/OECD´s methodology as QP Eurostat/OECD. The definitions and methodology used for the compilation of entries, also follow the Eurostat/OECD Manual (2007) on Business Demography Statistics, and are comparable to those of the Entrepreneurship Indicators Programme (EIP).

4.2. Definition of indicators

We resort to three main indicators. The *Business Density* indicator is used to measure the number of total businesses (those that existed at the beginning of the given year) as a ratio of working age population (age 18-65). The *New Business Density* indicator is used to measure new firms (those that were registered in the current year) as a ratio of working age population (ages 18-65). The *Entry rate* indicator is used to measure the number of new businesses as a proportion of existing businesses. It is calculated as a percentage of newly registered firms to total registered firms in a given year (Klapper et al., 2009).

5. Results from data comparison

The total number of registries in WBGES 2008 is always higher than the number of employer enterprises from the entrepreneurship database created from *Quadros de Pessoal* (according to the Eurostat/OECD´s methodology, 2007), exception made for year 2000[11] (Table 1). The difference between the number of registry records and the number of employer enterprises increases from 2001, and more sharply from 2002 onwards. In 2007, there was a difference of 68.799 businesses between the two information sources. This might be explained by the increase of the number of sole proprietors that do not register with the Social Security, by an increase in the number of businesses that do not report the cessation of its activity to the register or by the increase in enterprises in sectors which are not considered in *Quadros de Pessoal*.

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[9] We considered sections A to O of ISIC Revision 3.

[10] Following Eurostat/OECD´s "Manual on Business Demography Statistics" (2007).

[11] The opposite happens when the WBGES data is compared to the Global Entrepreneurship Monitor (Acs et al., 2008). We find that 2000 was a "peak year" in terms of employer enterprise births (Sarmento and Nunes, 2009). A plausible explanation is the reactivation of previously registered business that became economically active beyond the one employee threshold, in 2000. One of the causes might be the opening of the third European Union Community Support Framework (QCA III). The determinants of enterprise births are beyond the scope of this document, but will be approached in forthcoming work.

From 2003, the growth rate of the total number of registers and employer enterprises according to WBGES 2008 and *Quadros de Pessoal* (Eurostat/OECD) show a similar behaviour, with the exception of year 2007. WBGES data is able to pick up the surge in business creation in 2005, revealed not only by its growth rate, but also by the entry rate values in *Quadros de Pessoal*, which can be related to the initiative "*Empresa na Hora*" and the picking up of the economic cycle. According to *Quadros de Pessoal*, 16,1 out of each 100 employer enterprises were new firms, compared to 12,6 in 2007. Despite the discrepancies between annual growth rates of new businesses creation among these two data sources, the year on year average growth rate for the last 4 years (2007-2004/2003-2000) shows a similar value for both data sources (1,1% for WBGES 2008 and 0,9% for QP Eurostat/OECD).

As expected, the number of total registries in WBGES 2008 is greater than the number of the employer enterprises, which are a subset of the country's business registries. On the other hand, we find the number of new employer enterprises in any given year to be greater in *Quadros de pessoal*, than the number of new registries in WBGES[12], as illustrated in Table 3 and Figure 2.

Table 1 - Comparison between the WBGES data and Quadros de Pessoal (Eurostat/OECD)

			2000	2001	2002	2003	2004	2005	2006	2007
Total Number of "Enterprises"	World Bank	number	267.192	308.681	312.000	347.683	363.412	404.224	416.369	423.719
	Quadros de Pessoal (Eurostat/OECD)	number	268.689	284.002	299.788	306.561	312.938	340.775	344.021	354.920
	Growth rate World Bank	%		15,5	1,1	11,4	4,5	11,2	3,0	1,8
	Growth rate Quadros de Pessoal (Eurostat/OECD)	%		5,70	5,56	2,26	2,08	8,90	0,95	3,17
	Growth World Bank	2000=100	100	115,5	116,8	130,1	136,0	151,3	155,8	158,6
	Growth Quadros de Pessoal (Eurostat/OECD)	2000=100	100	105,7	111,6	114,1	116,5	126,8	128,0	132,1
Number of New "Enterprises"	World Bank	number	18.748	41.648	20.143	20.984	24.774	25.779	28.284	30.934
	Quadros de Pessoal (Eurostat/OECD)	number	52.346	54.229	54.702	41.471	39.865	54.865	43.980	44.611
	Growth rate World Bank	%		122,1	(51,6)	4,2	18,1	4,1	9,7	9,4
	Growth rate Quadros de Pessoal (Eurostat/OECD)	%		3,6	0,9	(24,2)	(3,9)	37,6	(19,8)	1,4
	Growth World Bank (2000=100)	2000=100	100	222	107	112	132	138	151	165
	Growth Quadros de Pessoal (Eurostat/OECD) (2000=100)	2000=100	100	104	105	79	76	105	84	85
Business Density	World Bank	enterprises/1000 active pop	38,6	44,5	44,9	49,9	52,0	57,7	59,2	60,1
	Quadros de Pessoal (Eurostat/OECD)		38,9	41,0	43,1	44,0	44,8	48,6	48,9	50,3
	Difference (WB-QP (Eurostat/OECD))		-0,2	3,6	1,8	5,9	7,2	9,1	10,3	9,8
New Business Density	New Business Density World Bank	enterprises/1000 active pop	2,71	6,01	2,90	3,01	3,54	3,68	4,02	4,39
	New Business Density Quadros de Pessoal (Eurostat/OECD)		7,57	7,82	7,87	5,95	5,70	7,83	6,26	6,33
Entry rate	World Bank	%	7,0	13,5	6,5	6,0	6,8	6,4	6,8	7,3
	Quadros de Pessoal (Eurostat/OECD)	%	19,5	19,1	18,2	13,5	12,7	16,1	12,8	12,6

Source: WBGES 2008 from the World Bank and authors' calculations for *Quadros de Pessoal* (according to Eurostat/OECD's methodology) from GEP, Ministério do Trabalho e da Solidariedade Social.
Note: "Enterprises" are businesses registries in the case of the WB data and are employer enterprises in *Quadros de Pessoal*.

The above startling observation can be explained. In the WBGES (thus in the Portuguese business registry), any business is registered only once. But according to the methodology applied to *Quadros de Pessoal* (Eurostat/OCDE, 2007), a businesses that does not show up in the database during two consecutive years, and shows up in a following third year, is accounted for as a new entry. This can cause duplications of the number of entries (births) for the same

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[12] The average number of new businesses created in *Quadros de Pessoal* for the period 2000-2007 (48.259 employer enterprises) is greater than that of the WBGES (26.412).

enterprise. A second stronger reason, might be that a formal registry
can happen in a previous moment (entry into the legally active
businesses universe) to its entry into the economically active
businesses universe, and consequently into the group of employer
enterprises, thus causing "economic reactivations" of enterprises not
to coincide in time with formal registries. Still, according to our
calculations[13], the coverage of WBGES registries within a two year
period is always greater than the total number of employer enterprise
births, which accommodates this situation and makes the simultaneous
analysis of these two datasets compatible.

**Figure 2 – Difference in the number of businesses and of new
businesses, between WBGES 2008 and *Quadros de Pessoal* (Eurostat/OECD)**
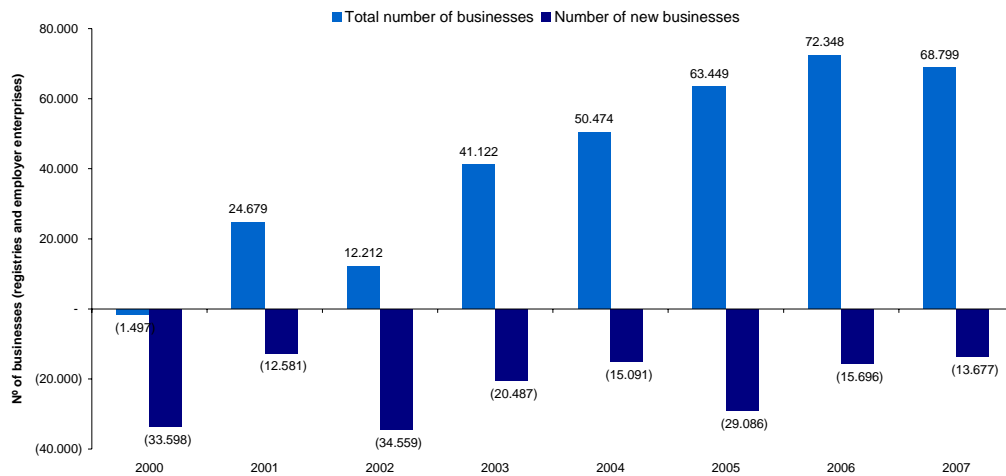
Source: WBGES 2008 from the World Bank and authors´ calculations for *Quadros de Pessoal*
(according to Eurostat/OECD´s methodology) from GEP, Ministério do Trabalho e da
Solidariedade Social.

Business density increases steadily over time in both datasets. As
expected, *Quadros de Pessoal* displays a smaller business density than
the WBGES data, due to the more restricted universe considered
(Table1). On the other hand, as there are comparatively more employer
enterprises´ entries relatively to a smaller population in *Quadros de
Pessoal*, the density of new business created in Portugal, is higher in
Quadros de Pessoal (almost twice the value of the WBGES for the whole
2000-2007 period, that is 3,78 for WBGES and 6,9 for QP
Eurostat/OECD). New business density increases over time in WBGES,
except for the outlier year of 2001. *Quadros de Pessoal* reveals
greater instability, pointing to two peak periods, between 2000 and
2002 and in 2005.

One of the most important discrepancies between the analysed
indicators for both datasets lies in the comparison of entry rates. As
entries are more numerous in *Quadros de Pessoal* (Eurostat/OECD) and
the number of total employer enterprises is relatively smaller[14] during
the period observed, the level of employer enterprise entry rates is

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[13] These were not included but are available at request.
[14] With the exception of the year 2000.

much higher in *Quadros de Pessoal* (always greater than 12,6%) than in WBGES data (always below 13,5%).

6. International comparisons

Portugal presents a higher annual average growth for the total number of business registries, according to WBGES data, for the period 2000 to 2007, when compared to the European Union (EU) and the OECD (Table 2). The annual average growth rate of new enterprises is higher than Spain's and the EU´s, but is below the OECD´s area. For *Quadros de Pessoal* (Eurostat/OECD), the annual average growth of new enterprises shows a negative growth, due to the decreasing employer enterprise creation that occurred from 2002, but also due to the fact that 2000 and 2001 were "peak" years in terms of new enterprises entry, when compared to 2007 (Sarmento and Nunes, 2009 and 2010).

Table 2 - Annual average growth of total number and of new enterprises, 2000-2007 (%)

	Total number of enterprises	Number of new enterprises
Portugal	6,8	7,4
Portugal QP (Eurostat/OECD)	4,1	-2,3
Spain	7,4	3,3
European Union	4,5	7,2
OECD	5,3	7,6

Source: WBGES 2008 from the World Bank and authors´ calculations for *Quadros de Pessoal* (according to Eurostat/OECD´s methodology) from GEP, Ministério do Trabalho e da Solidariedade Social.
Note: Averages were taken for the EU and the OECD. OECD is formed by 29 countries (Republic of Korea not included) and the European Union is formed by 26 countries (Estonia not included).

The fact that 2001 was an exceptional year for Portugal, in terms of business creation, visible in both datasets, is also captured by comparing WBGES entry rates from Spain, the EU and the OECD (Figure 3). The Community Support Framework (QCA III) started operating in 2000. We are led to believe that dormant enterprises or those that were below the one employee threshold were reactivated, by the end of 2000, and that in the following year, new businesses were formally created (thus registered at the Portuguese National Business Registry). *Quadros de Pessoal* also highlights 2001 as peak year in terms of entry (19,1%), when the whole series from 1985 to 2007 is considered (Sarmento and Nunes, 2009 and 2010).

Figure 3 – Entry rates in the Portugal and Spain and average entry rates for the EU and the OECD, 2000-2007
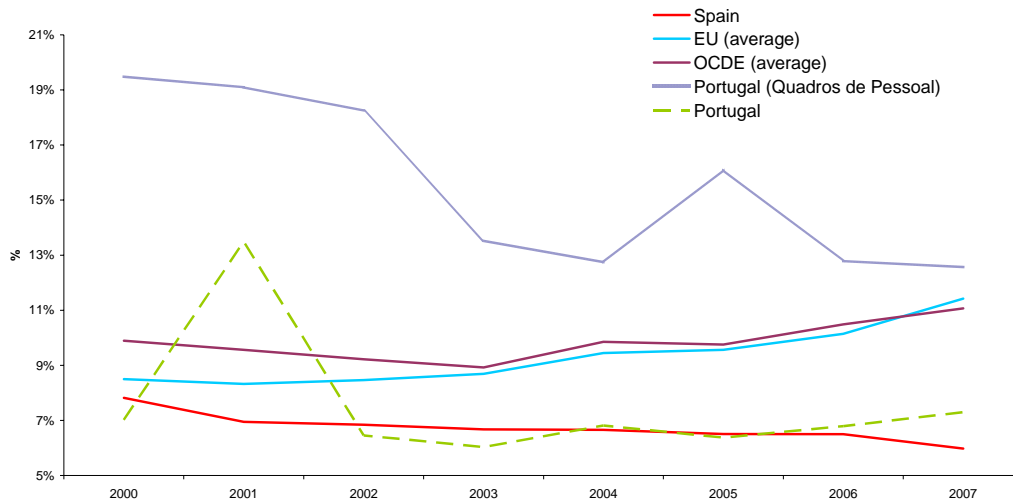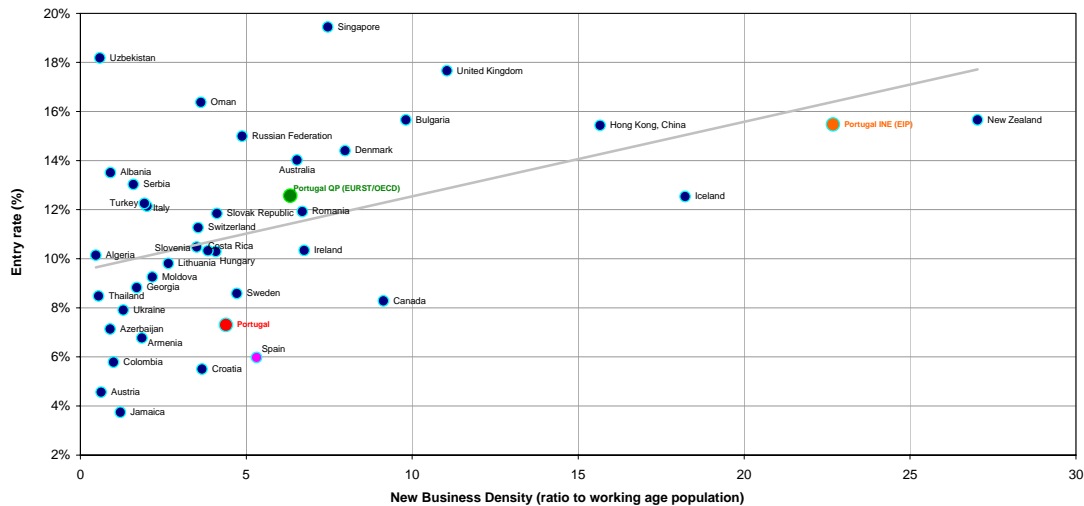

Source: WBGES 2008 from the World Bank.
Note: Entry rates for the EU and OECD were calculated as an average of all entry rates of EU and OECD countries. OECD is formed by 29 countries (Republic of Korea not included) and the European Union is formed by 26 countries (Estonia not included).

The correlations between the entry rate and the business density of new enterprises (Figure 4) and of the former and business density (Figure 6), for 2007, are both positive and statistically significant. We would expect a country with a high entry rate to have a high density of new businesses.

Figure 4 – New business density and entry rate, 2007

Source: WBGES 2008 from the World Bank. Note: Only countries for which both indicators were available in 2007 were depicted.

If we consider Portugal's international "ranking", according to entry rates in the business registries of the WBGES 2008, we observe it ranks as 32nd among 39 countries in 2007 (Figure 4) and in 41st among 53, in 2006. We find this relative positioning does not match with other sources of information that take into account economically active units.

Figure 5 - Entry rates, according to the Business Demography Statistics by Eurostat and entry rate for Portugal according to Statistics Portugal (EIP Programme), *Quadros de Pessoal* **and WBGES 2008, ordered by 2005 and by country**
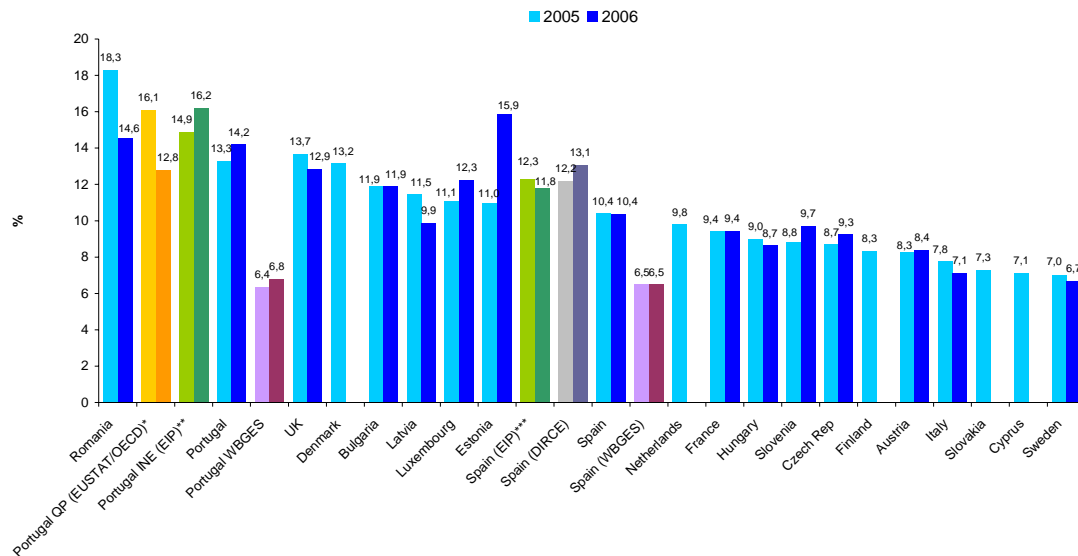
Source: Eurostat. For Portugal, author's calculations based on *Quadros de Pessoal* GEP, MTSS for Portugal QP (Eurostat/OECD) and WBGES 2008. In green, data from the SDBS Business Demography Indicators from the OECD (EIP), for Portugal and Spain.
Notes: Preliminary version of 2005 for Bulgaria, Romania, Portugal and Slovenia. * Employer enterprises according to the Eurostat/OECD methodology, based on *Quadros de Pessoal* (NACE A to Q, ISIC Rev. 3)
** Statititics Portugal data, for enterprises with more than 1 paid employee (employer enterprises), same as the SDBS from the OECD (NACE C to O of ISIC Rev. 3). *** SDBS Business Demography Indicators, for enterprises with more than 1 paid employee (employer enterprises) from the OECD (NACE C to O of ISIC Rev. 3).

The Structural Business Statistics data by Eurostat (2009) shows that Portugal, in 2005, had the second highest business entry rate (Figure 5). The same rank is found if we used instead our entry rate based on *Quadros de Pessoal* (Eurostat/OECD, 2007), or the entry rate from Statistics Portugal (INE, 2009), calculated for enterprises which employ more than one worker (which followed the same Eurostat/OECD´s methodology).
In 2006, within a panel of 16 countries, Portugal ranks the third highest, after Estonia and Romania (INE, 2009) and would be ranked second if Statistics Portugal data or *Quadros de Pessoal* (Eurostat/OECD) data would be used instead. The entry rates from the WBGES have a different entry magnitude from the other 3 datasets, the same happening for the other country depicted, Spain.

A closer look at Figure 6, where business and new business densities are portrayed for all countries (developed and less developed) for which data was available in the WBGES 2008, for 2007, also places Portugal amongst the countries with the highest business and new business densities. In 2007, Portugal is ranked 10th in the highest business density in a panel of 42 countries and 16th in the new business density amongst 52 countries. Thus, relatively high business densities at an international level are observable for both datasets.

Figure 6 - Business Density and New Business Density for WBGES countries, and Portugal according to both WBGES and *Quadros de Pessoal* (Eurostat/OECD), 2007
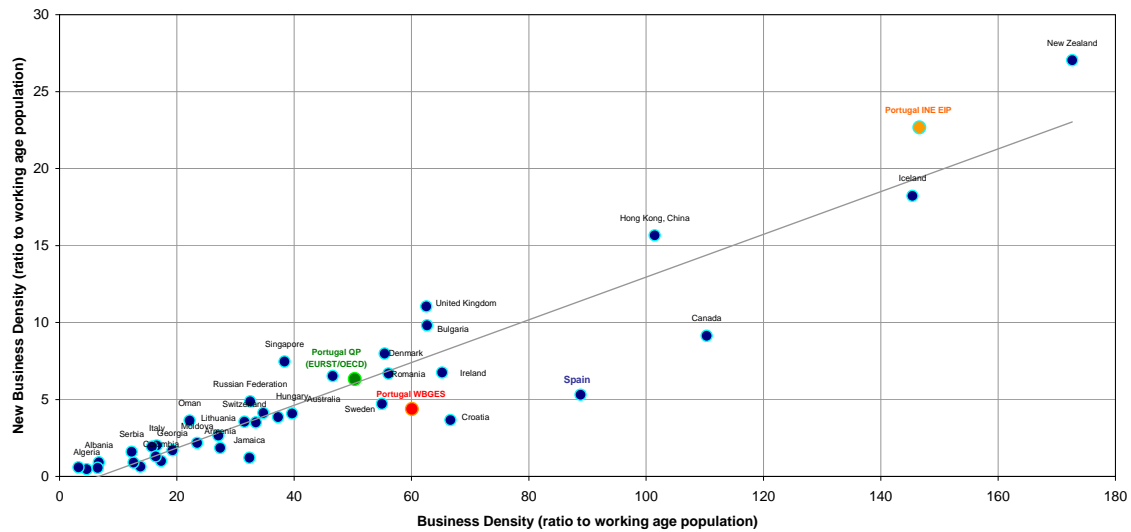
Source: WBGES 2008 from the World Bank and authors´ calculations for *Quadros de Pessoal* (according to the Methodology of Eurostat/OECD) from GEP, Ministério do Trabalho e da Solidariedade Social.
Note: Only countries for which both indicators were available in 2007 were depicted. The name of some countries was erased from the bottom right corner of the graph, because they were not readable, but the representative dots are still depicted.

According to WBGES data, Portugal also shows higher than average business densities when compared to the OECD and the European Union (EU), while according to *Quadros de Pessoal,* business density is only higher than the EU´s. On the other hand, Portugal is surpassed by Spain, EU and the OECD in terms of the density of new businesses. Only using QP data can Portugal assure a higher average than its counterparts.

7. Final remarks

The WBGES 2008 dataset and the *Quadros de Pessoal* to which the methodology of Eurostat/OECD (2007) was applied to, are comparable and compatible in terms of analysis of business demography in Portugal, if methodological differences are accounted for in the analysis of the data, in particular regarding new business creation, in what concerns the time gap between the moment of the registry and the moment the business becomes economically active.

The WBGES accounts for formal business registries, which may not be economically active but are legally registered. The *Quadros de Pessoal* considers all entities that are formally registered in the Portuguese Social Security System, which can be considered as a subset of WBGES, over time. The application of the Eurostat/OECD´s methodology, selects from *Quadros de Pessoal*, a specific sub-set of active employer enterprises, those that employ at least one paid worker.

The introduction of the Simplified Reporting System for Corporate Information (IES), its integration in the Integrated System of Business Accounts (SCIE) and the recent developments concerning the integration of the integrated register of companies (FUESEN) and the

NACE Classification of companies (SICAE), has led to significant improvements in terms of process simplification, harmonisation and statistical consistency in the collection and analysis of business demography data. This has brought, since 2004, Statistics Portugal data from the SCIE, closer to WBGES data.

In comparing the two main datasets of this study, we can observe similar trends. Business creation has been increasing steadily in Portugal since 2000. The peak in business creation in 2000 and 2001, captured by *Quadros de Pessoal* (Eurostat/OECD) earlier on in 2000, due to the reactivation of employer enterprises and in the WBGES, due to a high in business registration in the following year, is pinpointed as a specific phenomenon to Portugal, which might be related to the start of the Third Community Support Framework (QCA III), in 2000. The "peak" year of 2005, in terms of business creation, identified in *Quadros de Pessoal* (Eurostat/OECD), is not so recognisable in the remaining databases.

From the point of view of business registrars, entry rates seem in general lower. We highlight the importance of considering information other than business registries, in particular when calculating business entry rates. Datasets where economically active units can be identified, such as those in *Quadros de Pessoal*, in Statistics Portugal SCIE database, and those considered in the Entrepreneurship Indicators Programme, provide a better proxy for the true level of business creation and activity in Portugal.

If the measurement of entrepreneurship is taken one step ahead, to measure enterprise growth over time, particularly in terms of employment, then an enterprise (or a sole proprietor) that survives and that is operating in the formal market, will most probably hire and pay for extra workers at some point in time, and consequently will show up in *Quadros de Pessoal*. This universe is representative of "enterprises" that have managed to grow beyond the one employee threshold.

We expect the ongoing national and international developments, in terms of data integration and harmonisation, and the access to more powerful tools for micro-data analysis, can set the ground for a less sophisticated examination exercise of the business demography phenomena.

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