

7 May 2020



## Gross monthly earnings per employee

(Social Security and *Caixa Geral de Aposentações* – Data analysed by Statistics Portugal)

March 2020

### Gross monthly earnings per employee increased by 3.2% in the 1<sup>st</sup> quarter of 2020, to €1,189

The gross monthly earnings per employee (per job) increased by 3.2% in the 1<sup>st</sup> quarter of 2020, compared to the same period of 2019, to €1,189. The same increase of 3.2% was observed on gross regular and base monthly earnings, which reached €1,069 and €1,005, respectively. These data concern nearly 4.2 million of employees, corresponding to the Social Security's beneficiaries and the subscribers of *Caixa Geral de Aposentações*.

In real terms, taking into account the change of the Consumer Price Index during the period under analysis, those gross monthly earnings per employee increased by 2.8%.

The information in this Press Release does not yet reflect the current situation determined by the pandemic COVID-19. It is possible that the analysed trends may change. Nonetheless, the information available today is useful to establish a reference to assess future developments. Despite the circumstances, Statistics Portugal will try to maintain the statistical production and release calendar, although some adjustments might occur associated with the impact of the pandemic in obtaining primary information. We reinforce our call for better collaboration by citizens and public entities in answering to Statistics Portugal's requests. The quality of official statistics, particularly its ability to identify the impacts of the COVID-19 pandemic, depends crucially on this collaboration that INE is grateful for in advance.

## 1. Introduction

Following the work that Statistics Portugal has been doing with the statistical use of data from the Monthly Statement of Earnings (DMR – *Declaração Mensal de Remunerações*) sent by enterprises<sup>1</sup> to the Social Security and the Contributive Relation (RC – *Relação Contributiva*) of *Caixa Geral de Aposentações* (CGA),<sup>2</sup> that represents an universe of 4.2 million of employees

(per job), in this Press Release we publish the gross monthly earnings per employee, total and regular, by economic activity, up to the 1<sup>st</sup> quarter of 2020.

We also release, for the first time, the estimates of base gross monthly earnings and the estimates of gross earnings by institutional sector of the economy: sector of Public Administrations (PA), as defined in the National Accounts, using as reference the list of entities that belong to the Public Administrations – S13 – and the private sector (total of economy excluding the PA).

<sup>1</sup> Also includes foundations, institutes and other organisms, being public, private or from the social sector.

<sup>2</sup> CGA is the Portuguese public servants retirement and survivor pensions funds. Up to 2005, all employees in the Public Administrations made their social contribution to CGA. Since the end of 2005, all new employees in the public sector were integrated in the general public Social Security, as an employee in the private sector.

## 2. Gross monthly earnings per employee and components

In March 2020 (quarter ended in March 2020)<sup>3</sup>, the gross monthly earnings per employee recorded a year-on-year increase of 3.2% (Figure 1), increasing from €1,153 in March 2019 to €1,189 in March 2020. This change corresponds to an acceleration, of 0.5 percentage points (pp), of the growth observed in December 2019 (2.7%).

The regular gross monthly earnings per employee, which exclude, among other earnings components, the Christmas and Holidays allowances and, thus, have a less seasonal behaviour<sup>4</sup>, showed a year-on-year increase of 3.2%, from €1,036 in March 2019 to €1,069 in March 2020. This component has also registered an acceleration compared to December 2019 (more 0.6 pp).

The base gross monthly earnings per employee, which only includes the base earnings, showed a year-on-year increase of 3.2%, from €974 in March 2019 to €1,005 in March 2020. This component has registered the largest acceleration, among the three components, compared to December 2019 (more 0.7 pp).

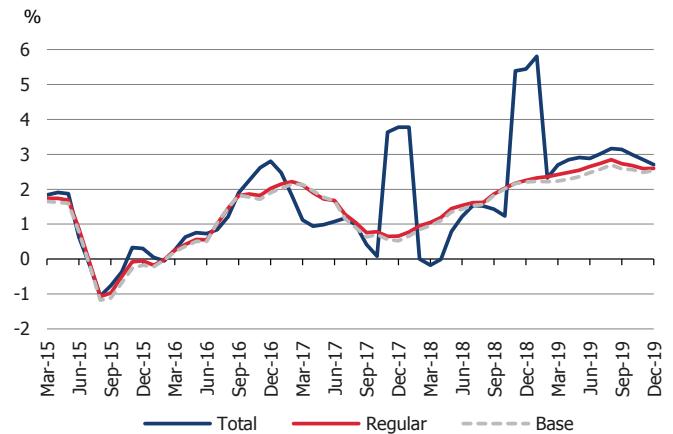
The significant fluctuations registered in the end of 2017 and 2018 were due the changes in the payment of the Christmas allowances in the public sector (50% in November 2017, 100% in November 2018), whereas

<sup>3</sup> The monthly data analysed in this Press Release refer to moving quarters ended in the reference month. Unless otherwise stated, the rates of change correspond to year-on-year ones (compared to the same moving quarter of the previous year). The year-on-year change series of the indicators under analysis are shown in the tables in the Annex.

<sup>4</sup> For a more detail description of the earnings components included in the total and in the regular gross monthly earnings, see the Technical note.

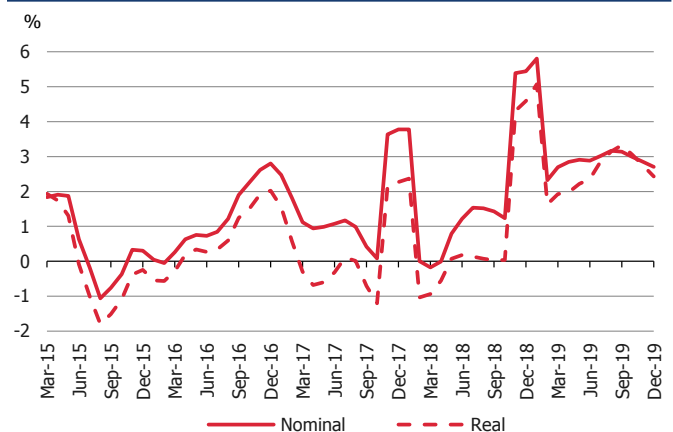
in the previous years they were paid in one-twelfth over the year.

**Figure 1: Year-on-year change of gross monthly earnings per employee (total and regular)**

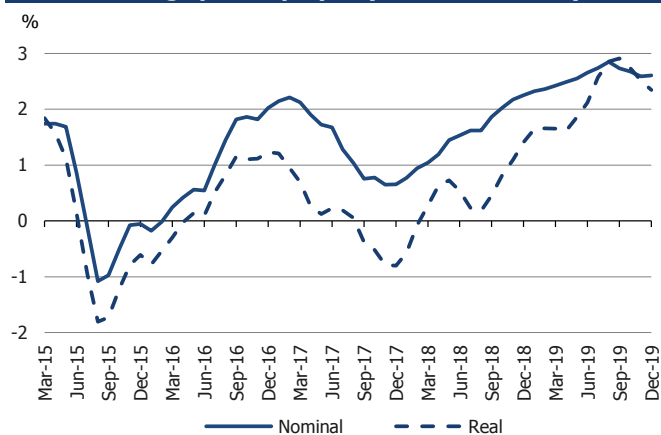


In real terms, that is, taking into account the inflation measured by the change of the Consumer Price Index (CPI) that stood at 0.4% in the 1<sup>st</sup> quarter of 2020, the gross earnings (total, regular and base) registered a year-on-year increase of 2.8% (Figures 2, 3 and 4).

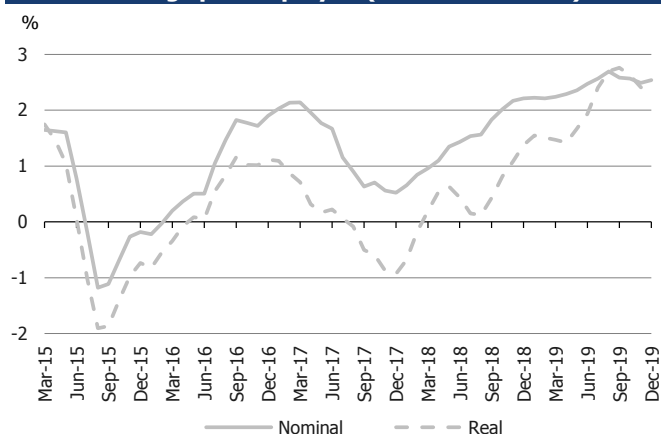
**Figure 2: Year-on-year change of total gross monthly earnings per employee (nominal and real)**



**Figure 3: Year-on-year change of regular gross monthly earnings per employee (nominal and real)**



**Figure 4: Year-on-year change of base gross monthly earnings per employee (nominal and real)**



### 3. Gross earnings by economic activity

As stated in previous Press Releases, the average earnings change substantially with the economic activity.<sup>5</sup> In March 2020, the total earnings varied between €755 in the *Agriculture, farming of animals, hunting and forestry* (section A), and €2,975 in the activities of *Electricity, gas, steam and air conditioning supply* (D) (Table 2 of the Annex).

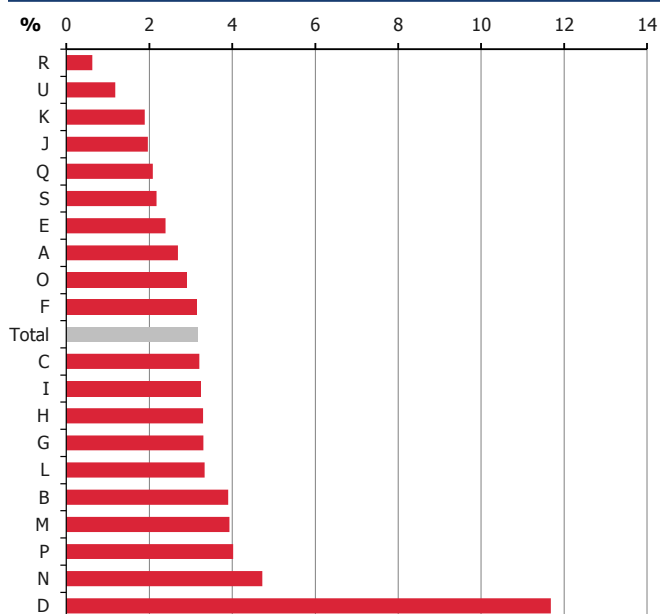
<sup>5</sup> The economic activity designations can be found in Table 2 of the Annex.

In turn, the regular earnings varied between €680 in the *Agriculture, farming of animals, hunting and forestry* (A), and €2,516 in the activities of *Electricity, gas, steam and air conditioning supply* (D).

Regarding the base earnings, it varied between €645 in the *Administrative and support service activities* (N), and €2,348 in the activities of *Electricity, gas, steam and air conditioning supply* (D).

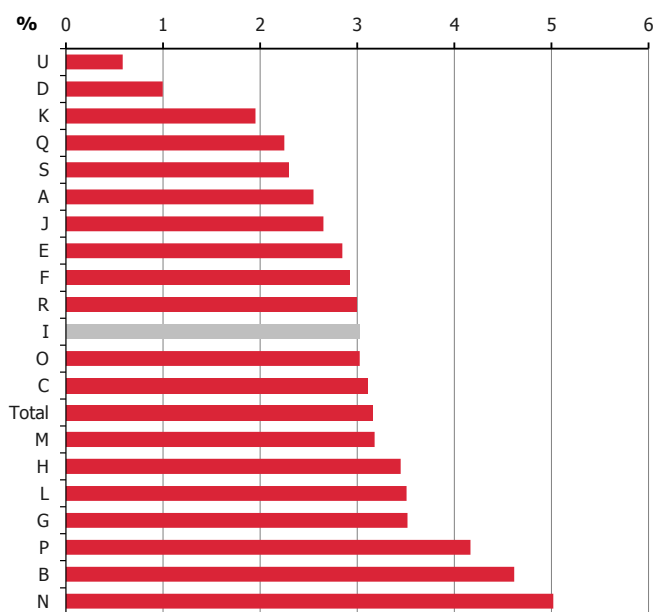
Compared to the same period of 2019, the major change in total earnings were observed in activities of *Electricity, gas, steam and air conditioning supply* (D; 11.7%), followed by the activities of *Administrative and support service activities* (N; 4.7%) (Figure 5). On the other hand, the total earnings in the activities of *Arts, entertainment, sports and recreation activities* (R) increased 0.6% and the *Activities of extraterritorial organisations and bodies* (U) increased by 1.2%.

**Figure 5: Year-on-year change of total gross monthly earnings per employee by economic activity (NACE-Rev. 2) in March 2020**



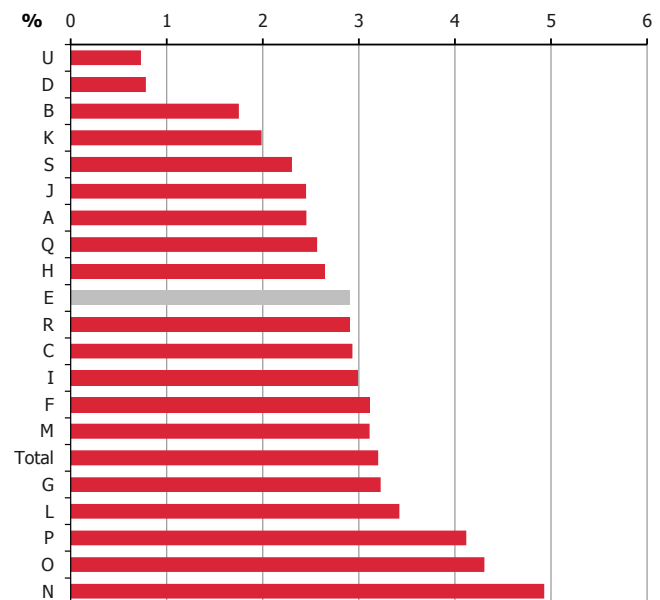
The larger changes of the regular earnings were observed in the *Administrative and support service activities* (N; 5.0%) and activities of *Mining and quarrying* (B; 4.6%), while the smaller change was registered in *Activities of extraterritorial organisations and bodies* (U; 0.9%) (Figure 6).

**Figure 6: Year-on-year change of regular gross monthly earnings per employee by economic activity (NACE-Rev. 2) in March 2020**



Regarding the base earnings, the activities with larger year-on-year changes were the *Administrative and support service activities* (N; 4.9%) and the *Public administration and defence; compulsory social security* (O; 4.3%) (Figure 7). The smaller changes were observed in *Activities of extraterritorial organisations and bodies* (U; 0.7%) and in activities of *Electricity, gas, steam and air conditioning supply* (D; 0.8%).

**Figure 7: Year-on-year change of base gross monthly earnings per employee by economic activity (NACE-Rev. 2) in March 2020**



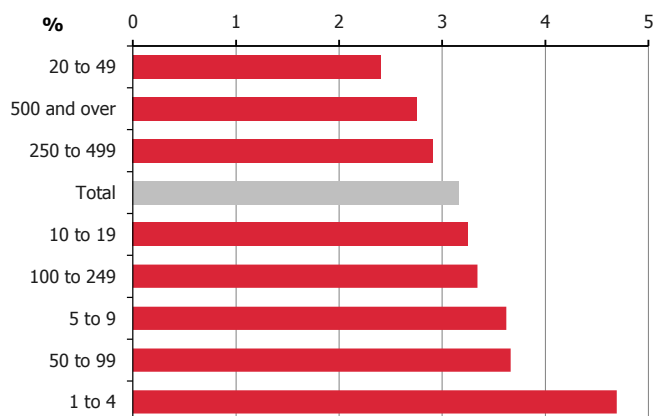
#### 4. Gross earnings by enterprise size

In March 2020, the total gross monthly earnings per employee ranged from €782, in enterprises with 1 to 4 employees, to €1,440, in enterprises with 500 or more employees (Table 3 of the Annex).

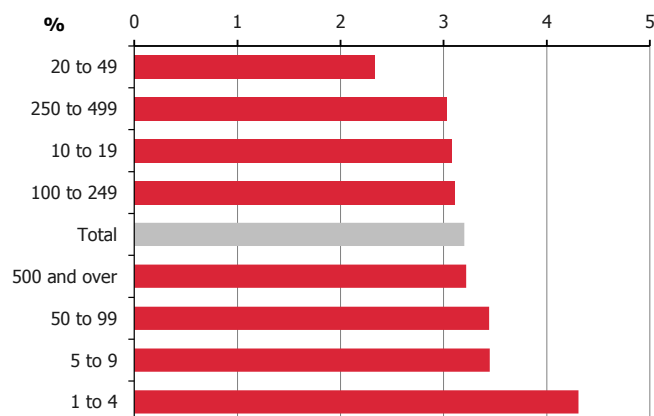
Regarding the regular and the base earnings, the larger and smaller monthly earnings were observed in the size class of 1 to 4 employees (€733 and €725, respectively) and in the size class of 250 to 499 employees (€1,309 and €1,229, respectively).

In regard to the same period of the last year (March 2019), the larger changes were observed in enterprises of 1 to 4 employees (4.7%), of 50 to 99 employees (3.7%) and of 5 to 9 employees (3.6%) (Figure 8). In turn, the smaller year-on-year changes were observed in the size class of 20 to 49 employees (2.4%) and with 500 or more employees (2.8%).

**Figure 8: Year-on-year change of total gross monthly earnings per employee by employment size class in March 2020**

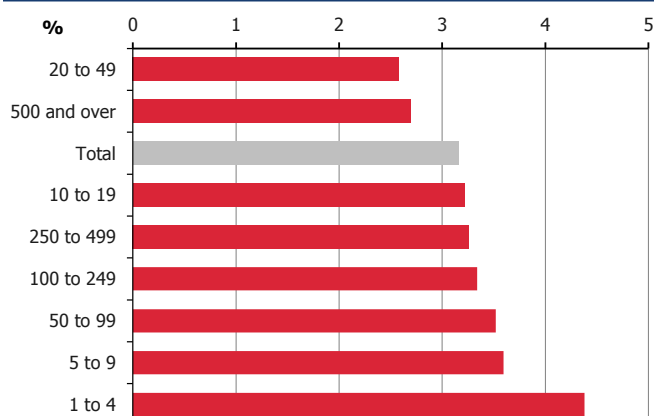


**Figure 10: Year-on-year change of base gross monthly earnings per employee by employment size class in March 2020**



The same pattern is observed for the regular and the base earnings, where the larger year-on-year changes were observed in enterprises of 1 to 4 employees (4.4% and 4.3%, respectively), of 5 to 9 employees (3.6% and 3.4%) and of 50 to 99 employees (3.5% and 3.4%) (Figures 9 and 10). The smaller year-on-year changes were observed in enterprises of 20 to 49 employees (2.6 and 2.3%) and with 250 to 499 employees (2.7% and 3.0%).

**Figure 9: Year-on-year change of regular gross monthly earnings per employee by employment size class in March 2020**



## 5. Gross earnings by institutional sector

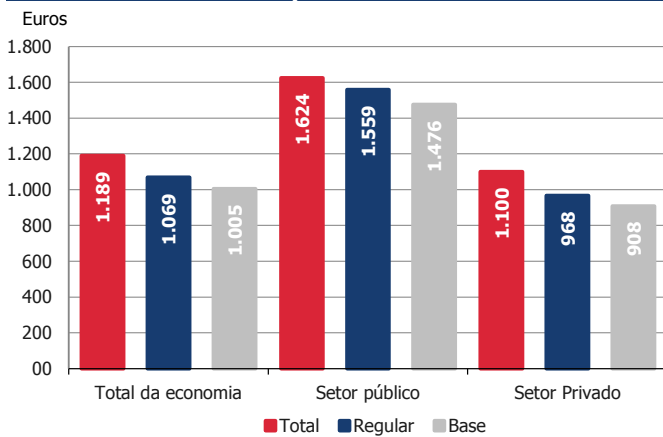
Using, as reference, the institutional sector of Public Administration (S13) used by National Accounts, we observed, in this sector, a year-on-year increase of 3.0%, from €1,576 in March 2019 to €1 624 in March 2020. The regular component increased, from the same period of last year, 3.2%, to €1,559 (€1,510 in March 2019). The base earnings had a larger increase, of 4.0%, from €1,420 to €1,476 in March 2020 (Figures 11 and 12).

In the private sector, the total earnings recorded a higher year-on-year increase than the public sector (3.3% vs 3.0%), from €1,065 in March 2019 to €1,100 in March 2020. The regular component also observed a larger increase in the private sector (3.3% vs 3.2%), from €937 to €968. In turn, the base earnings registered a lower increase in the private sector (3.1% vs 4.0%), from €881 to €908.

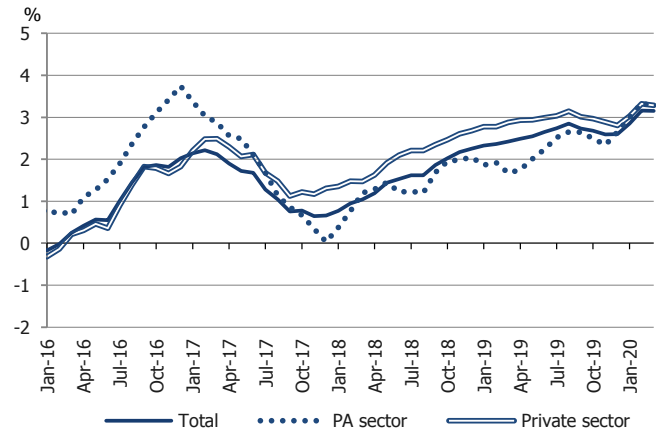
The average earnings differences between the public and private sector reflect differences, among others, in the tasks performed and in the employees' qualifications. Thus, it is observed that the employees

in the public sector have, on average, a higher educational level<sup>6</sup>: in the public sector, 52.9% of the employees had completed the tertiary education in 2018 (20.1% in the private sector), 25.0% had the upper secondary or post-secondary non-tertiary education (29.9% in private sector) and 22.1% had up to the lower secondary education (50.0% in the private sector).

**Figure 11: Gross monthly earnings per employee (total, regular and base) by institutional sector of the economy in March 2020**



**Figure 12: Year-on-year change of regular gross monthly earnings per employee by institutional sector of the economy**



## 6. Gross earnings by groups of economic activity according to the market and tradable nature of the goods and services produced

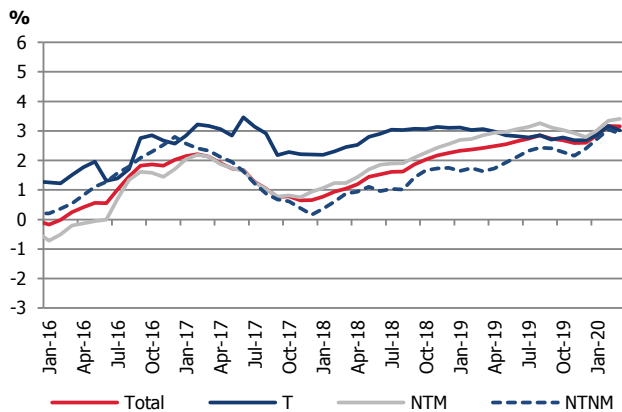
In this Press Release, we resume the release of earnings by groups of economic activity according to the market and tradable nature of the goods and services produced, as was previously released for the quarter ended in September 2019: sector of mainly tradable goods and services (sections A to C); sector of mainly non-tradable market goods and services (sections D to U, excluding O, Q and Q) and sector of mainly non-tradable non-market goods and services (sections O, P and Q). This group roughly corresponds to the economic sections with larger presence of the public sector.

In March 2020, the regular earnings of sector T recorded a year-on-year increase smaller than the total economy (3.0% vs 3.2%), increasing from €911 in March 2019 to €935 in March 2020 (Figure 13). The sector NTM observed a larger increase, from the same period of 2019, than the total economy (3.4% vs 3.2%). The sector NTN observed the smaller

<sup>6</sup> Results for 2018: from the Directorate-General for Administration and Public Employment (DGAEP), whose coverage is close to the sector of Public Administrations here defined; 2) from the Lists of Personnel (*Quadros de Pessoa*), from Strategy and Planning Office of the Ministry of Labour, Solidarity and Social Security.

year-on-year increase (2.9%), increasing from €1,307 to €1,345 in March 2020.

**Figure 13: Year-on-year change of the regular gross earnings per employee by groups of economic activity according to the market and tradable nature of the goods and services produced**



**Notes:**

- T - Sector of mainly tradable goods and services (sections A to C).
- NTM - Sector of mainly non-tradable market goods and services (sections D to U, excluding O, Q and Q).
- NTNM - Sector of mainly non-tradable non-market goods and services (sections O, P and Q).

**The COVID-19 pandemic impact on Gross monthly earnings per employee publish in this Press Release**

In the sequence of the new simplified layoff regime (Decree-law 10-G/2020, of 26 March), in 22 April of 2020 there were 6,195 enterprises with approved layoff requests in the Social Security Information System. This group of enterprises represented, in March, 1.5% of total enterprises, employed 72.3 thousands employees (1.7% of the total) and paid €59millions of base gross earnings (1.2% of the total). A significant portion of these enterprises will be under the layoff regime only from April 2020. Thus, these circumstances have not yet affected the earnings dynamics published in this Press Release that cover the months of January, February and March of 2020.

**Table 1: Number of employees and gross monthly earnings per employee  
(total, regular and base)**

Portugal	Quarter ended in the month				Year-on-year change			
	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings
	Thousands	Euro			%			
<b>2020</b>								
March	4,170.0	1,189	1,069	1,005	2.6	3.2	3.2	3.2
February	4,186.2	1,256	1,062	998	3.1	3.0	3.2	3.2
January	4,205.2	1,439	1,051	987	3.3	2.8	2.8	2.8
<b>2019</b>								
December	4,217.4	1,423	1,042	978	3.4	2.7	2.6	2.5
November	4,220.1	1,342	1,038	976	3.5	2.8	2.6	2.5
October	4,203.7	1,171	1,040	978	3.5	3.0	2.7	2.6
September	4,203.1	1,222	1,038	977	3.5	3.1	2.7	2.6
August	4,197.2	1,359	1,038	976	3.5	3.2	2.8	2.7
July	4,187.6	1,350	1,038	975	3.6	3.0	2.7	2.6
June	4,158.7	1,305	1,038	976	3.7	2.9	2.7	2.5
May	4,124.0	1,171	1,040	977	3.7	2.9	2.5	2.4
April	4,091.8	1,155	1,039	976	3.7	2.9	2.5	2.3
March	4,066.3	1,153	1,036	974	3.6	2.7	2.4	2.2
February	4,058.9	1,219	1,030	968	3.5	2.3	2.4	2.2
January	4,071.1	1,400	1,022	960	3.4	5.8	2.3	2.2
<b>2018</b>								
December	4,080.1	1,385	1,015	954	3.4	5.4	2.2	2.2
November	4,078.6	1,305	1,012	952	3.4	5.4	2.2	2.2
October	4,061.8	1,137	1,012	953	3.5	1.2	2.0	2.0
September	4,059.5	1,185	1,011	952	3.6	1.4	1.9	1.8
August	4,056.1	1,310	1,010	951	3.7	1.5	1.6	1.6
July	4,042.4	1,310	1,010	951	3.7	1.5	1.6	1.5
June	4,011.6	1,268	1,012	952	3.7	1.2	1.5	1.4
May	3,975.2	1,138	1,014	954	3.7	0.8	1.4	1.3
April	3,945.9	1,123	1,014	954	3.9	0.0	1.2	1.1
March	3,924.0	1,123	1,012	953	4.0	-0.2	1.0	1.0
February	3,921.3	1,192	1,006	947	4.1	0.0	0.9	0.8
January	3,936.1	1,323	998	939	4.2	3.8	0.8	0.7
<b>2017</b>								
December	3,945.9	1,314	993	933	4.3	3.8	0.7	0.5
November	3,944.2	1,238	991	932	4.3	3.6	0.6	0.6
October	3,926.1	1,123	992	934	4.2	0.1	0.8	0.7
September	3,920.0	1,168	992	935	4.3	0.4	0.8	0.6
August	3,911.4	1,297	993	936	4.8	1.0	1.0	0.9
July	3,898.1	1,290	994	936	5.3	1.2	1.3	1.2
June	3,868.0	1,253	996	939	5.6	1.1	1.7	1.7
May	3,833.0	1,129	999	942	5.4	1.0	1.7	1.8
April	3,798.0	1,123	1,002	944	5.2	0.9	1.9	2.0
March	3,772.9	1,125	1,001	944	5.0	1.1	2.1	2.1
February	3,766.0	1,192	997	939	4.8	1.8	2.2	2.1
January	3,776.6	1,275	991	933	4.6	2.5	2.1	2.0
<b>2016</b>								
December	3,783.9	1,266	987	929	4.4	2.8	2.0	1.9
November	3,782.6	1,195	984	927	4.3	2.6	1.8	1.7
October	3,769.2	1,123	985	928	4.1	2.3	1.9	1.8
September	3,760.1	1,163	985	929	3.8	1.9	1.8	1.8
August	3,733.4	1,285	983	928	3.2	1.2	1.5	1.5
July	3,701.8	1,276	981	926	2.6	0.8	1.0	1.0
June	3,663.6	1,240	980	923	2.2	0.7	0.5	0.5
May	3,636.5	1,118	982	925	2.2	0.8	0.6	0.5
April	3,611.7	1,113	983	926	2.2	0.6	0.4	0.4
March	3,594.3	1,112	981	924	2.4	0.3	0.2	0.2

Source: Calculations by Statistics Portugal using the Social Security's Monthly Statement of Earnings (DMR) and the Contributive Relation of the *Caixa Geral de Aposentações* (CGA).



**Table 2: Number of employees and gross monthly earnings per employee (total, regular and base) by economic activity (NACE-Rev. 2) in March 2020**

Portugal	Quarter ended in the month				Year-on-year change			
	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings
	Thousands	Euro			%			
<b>Total</b>	<b>4,170.0</b>	<b>1,190</b>	<b>1,069</b>	<b>1,006</b>	<b>2.6</b>	<b>3.2</b>	<b>3.2</b>	<b>3.2</b>
A - Agriculture, forestry and fishing	84.9	755	680	658	1.8	2.7	2.5	2.5
B - Mining and quarrying	8.8	1,440	1,248	1,037	1.0	3.9	4.6	1.8
C - Manufacturing	690.5	1,078	966	920	- 0.4	3.2	3.1	2.9
D - Electricity, gas, steam and air conditioning supply	11.7	2,975	2,516	2,348	- 1.7	11.7	1.0	0.8
E - Water supply; sewerage, waste management and remediation activities	34.8	1,077	988	919	4.0	2.4	2.8	2.9
F - Construction	283.3	903	808	777	6.3	3.2	2.9	3.1
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	656.3	1,070	921	873	2.6	3.3	3.5	3.2
H - Transportation and storage	178.7	1,513	1,277	1,078	4.4	3.3	3.4	2.6
I - Accommodation and food service activities	303.1	788	706	689	5.1	3.2	3.0	3.0
J - Information and communication	123.5	1,852	1,650	1,521	9.3	2.0	2.7	2.4
K - Financial and insurance activities	85.0	2,666	2,109	1,700	1.2	1.9	2.0	2.0
L - Real estate activities	46.5	1,010	924	900	8.4	3.3	3.5	3.4
M - Professional, scientific and technical activities	187.1	1,358	1,238	1,184	6.7	3.9	3.2	3.1
N - Administrative and support service activities	317.0	817	683	645	0.1	4.7	5.0	4.9
O - Public administration and defence; compulsory social security	371.7	1,454	1,409	1,283	1.8	2.9	3.0	4.3
P - Education	276.8	1,683	1,658	1,644	- 0.6	4.0	4.2	4.1
Q - Human health and social work activities	378.9	1,160	1,053	1,014	3.4	2.1	2.2	2.6
R - Arts, entertainment and recreation	39.3	1,183	1,066	1,014	6.9	0.6	3.0	2.9
S - Other service activities	86.1	959	887	862	1.1	2.2	2.3	2.3
U - Activities of extraterritorial organisations and bodies	1.2	1,753	1,690	1,657	- 0.9	1.2	0.6	0.7

Source: Calculations by Statistics Portugal using the Social Security's Monthly Statement of Earnings (DMR) and the Contributive Relation of the *Caixa Geral de Aposentações* (CGA).

**Table 3: Number of employees and gross monthly earnings per employee (total, regular and base) by enterprise size in March**

Portugal	Quarter ended in the month				Year-on-year change			
	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings
	Thousands	Euro			%			
<b>Total</b>	<b>4,170.0</b>	<b>1,189</b>	<b>1,069</b>	<b>1,005</b>	<b>2.6</b>	<b>3.2</b>	<b>3.2</b>	<b>3.2</b>
From 1 to 4 employees	536.0	782	733	725	1.7	4.7	4.4	4.3
From 5 to 9 employees	384.7	904	829	811	2.1	3.6	3.6	3.4
From 10 to 19 employees	384.5	988	891	864	3.6	3.2	3.2	3.1
From 20 to 49 employees	501.7	1,074	959	918	2.8	2.4	2.6	2.3
From 50 to 99 employees	360.4	1,176	1,045	992	3.7	3.7	3.5	3.4
From 100 to 249 employees	532.1	1,350	1,225	1,161	2.7	3.3	3.3	3.1
From 250 to 499 employees	335.7	1,449	1,309	1,229	- 1.1	2.9	3.3	3.0
500 employees and over	1,134.9	1,450	1,282	1,156	3.3	2.8	2.7	3.2

**Source:** Calculations by Statistics Portugal using the Social Security's Monthly Statement of Earnings (DMR) and the Contributive Relation of the *Caixa Geral de Aposentações* (CGA).

**Table 4: Number of employees and gross monthly earnings per employee in public sector  
(total, regular and base)**

Portugal	Quarter ended in the month				Year-on-year change			
	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings
	Thousands	Euro			%			
<b>2020</b>								
March	713.7	1,624	1,559	1,476	1.3	3.0	3.2	4.0
February	712.2	1,630	1,558	1,471	1.4	3.2	3.3	3.8
January	713.3	2,104	1,545	1,456	1.6	2.9	3.0	3.4
<b>2019</b>								
December	711.8	2,099	1,538	1,448	1.7	2.8	2.7	2.9
November	708.9	2,091	1,532	1,441	1.8	2.6	2.3	2.5
October	701.5	1,623	1,542	1,451	1.7	2.8	2.5	2.6
September	699.5	1,635	1,543	1,451	1.6	2.9	2.6	2.7
August	704.4	2,108	1,533	1,441	1.7	3.0	2.6	2.7
July	707.7	2,090	1,526	1,435	1.9	3.0	2.5	2.5
June	709.1	2,073	1,520	1,428	2.1	2.8	2.2	2.2
May	705.7	1,594	1,522	1,430	2.2	2.6	2.0	1.9
April	705.4	1,583	1,514	1,423	2.2	2.4	1.8	1.6
March	704.4	1,576	1,510	1,420	2.1	2.3	1.7	1.5
February	702.2	1,579	1,507	1,416	1.5	1.3	1.9	1.8
January	702.4	2,045	1,500	1,409	1.2	13.4	1.9	1.8
<b>2018</b>								
December	700.0	2,043	1,498	1,407	0.8	12.4	2.0	2.1
November	696.2	2,038	1,497	1,406	0.7	12.5	2.0	2.0
October	689.6	1,579	1,504	1,414	0.4	-0.9	2.0	1.9
September	688.2	1,588	1,503	1,413	0.4	-1.2	1.7	1.6
August	692.6	2,029	1,493	1,404	0.5	-1.1	1.2	1.0
July	694.5	2,029	1,489	1,400	0.3	-1.3	1.2	1.0
June	694.3	2,017	1,486	1,398	0.3	-1.2	1.2	1.0
May	690.7	1,553	1,492	1,403	0.2	-1.7	1.5	1.3
April	690.4	1,546	1,488	1,400	0.4	-1.8	1.3	1.2
March	690.1	1,541	1,485	1,398	0.5	-2.0	1.2	1.1
February	691.6	1,559	1,479	1,391	0.8	-2.4	0.8	0.6
January	693.8	1,804	1,473	1,384	1.1	11.3	0.4	0.1
<b>2017</b>								
December	694.7	1,818	1,468	1,379	1.3	10.8	0.0	-0.3
November	691.4	1,812	1,468	1,378	1.3	11.0	0.3	0.1
October	686.7	1,594	1,476	1,387	1.3	-2.4	0.7	0.5
September	685.3	1,608	1,478	1,391	1.4	-1.7	0.9	0.6
August	689.3	2,069	1,476	1,390	1.5	-0.6	1.1	0.9
July	692.2	2,057	1,471	1,386	1.5	-0.4	1.7	1.5
June	691.9	2,042	1,468	1,384	1.4	-0.5	2.1	2.1
May	689.1	1,580	1,470	1,386	1.0	-1.1	2.5	2.5
April	687.4	1,575	1,469	1,384	0.7	-1.2	2.6	2.6
March	686.8	1,573	1,468	1,383	0.5	-0.9	2.9	2.8
February	686.4	1,596	1,468	1,383	0.8	0.5	3.0	3.0
January	686.4	1,621	1,467	1,382	1.1	2.0	3.4	3.4
<b>2016</b>								
December	686.1	1,641	1,468	1,382	1.4	3.6	3.7	3.8
November	682.3	1,632	1,463	1,378	1.3	3.3	3.4	3.5
October	677.8	1,632	1,466	1,381	1.4	3.1	3.1	3.2
September	675.8	1,636	1,466	1,383	1.4	2.3	2.8	2.9
August	679.4	2,082	1,459	1,377	1.3	1.8	2.4	2.5
July	682.1	2,065	1,446	1,365	1.1	1.4	1.9	2.1
June	682.6	2,053	1,438	1,356	1.0	1.5	1.5	1.6
May	682.4	1,598	1,435	1,352	1.1	1.3	1.3	1.4
April	682.8	1,594	1,433	1,350	1.2	1.2	1.1	1.2
March	683.5	1,587	1,427	1,345	1.5	0.8	0.7	0.8

**Source:** Calculations by Statistics Portugal using the Social Security's Monthly Statement of Earnings (DMR) and the Contributive Relation of the *Caixa Geral de Aposentações* (CGA).

**Table 5: Number of employees and gross monthly earnings per employee in private sector  
(total, regular and base)**

Portugal	Quarter ended in the month				Year-on-year change			
	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings
	Thousands	Euro			%			
<b>2020</b>								
March	3,456.3	1,100	968	908	2.8	3.3	3.3	3.1
February	3,474.1	1,180	961	902	3.5	3.1	3.3	3.2
January	3,491.9	1,303	950	891	3.7	3.0	3.0	2.9
<b>2019</b>								
December	3,505.6	1,285	941	883	3.7	2.9	2.8	2.6
November	3,511.2	1,191	939	882	3.8	3.2	2.9	2.7
October	3,502.1	1,081	939	883	3.9	3.2	3.0	2.8
September	3,503.6	1,139	938	882	3.9	3.4	3.0	2.8
August	3,492.8	1,207	938	882	3.8	3.5	3.1	2.9
July	3,479.8	1,199	938	882	3.9	3.3	3.0	2.8
June	3,449.6	1,147	939	883	4.0	3.2	3.0	2.8
May	3,418.3	1,084	940	883	4.1	3.1	2.9	2.7
April	3,386.4	1,066	940	883	4.0	3.2	2.9	2.7
March	3,361.9	1,064	937	881	4.0	3.0	2.9	2.7
February	3,356.6	1,144	930	874	3.9	2.8	2.8	2.6
January	3,368.7	1,265	922	866	3.9	3.7	2.8	2.7
<b>2018</b>								
December	3,380.1	1,249	915	860	4.0	3.6	2.7	2.6
November	3,382.4	1,154	912	859	4.0	3.4	2.6	2.6
October	3,372.2	1,047	912	859	4.1	2.3	2.5	2.5
September	3,371.3	1,102	910	858	4.2	2.6	2.3	2.3
August	3,363.6	1,161	910	857	4.4	3.1	2.2	2.2
July	3,347.9	1,161	911	858	4.4	3.2	2.2	2.2
June	3,317.3	1,112	912	859	4.4	2.8	2.1	2.0
May	3,284.5	1,051	913	860	4.5	2.0	1.9	1.8
April	3,255.5	1,033	913	860	4.7	1.0	1.6	1.5
March	3,233.9	1,034	911	858	4.8	0.8	1.5	1.4
February	3,229.7	1,113	905	852	4.9	1.1	1.5	1.4
January	3,242.3	1,220	897	844	4.9	1.8	1.4	1.3
<b>2017</b>								
December	3,251.1	1,206	892	838	5.0	2.0	1.3	1.2
November	3,252.7	1,116	889	837	4.9	1.6	1.2	1.2
October	3,239.5	1,024	890	838	4.8	1.3	1.2	1.2
September	3,234.7	1,075	889	838	4.9	1.4	1.1	1.0
August	3,222.1	1,132	890	839	5.5	2.3	1.5	1.4
July	3,205.9	1,125	891	839	6.2	2.6	1.7	1.6
June	3,176.1	1,081	893	842	6.5	2.6	2.1	2.1
May	3,144.0	1,030	896	844	6.4	2.3	2.1	2.1
April	3,110.6	1,023	898	847	6.2	2.3	2.3	2.4
March	3,086.1	1,025	898	846	6.0	2.4	2.5	2.5
February	3,079.6	1,101	892	840	5.7	2.7	2.5	2.4
January	3,090.2	1,198	885	833	5.4	2.9	2.2	2.0
<b>2016</b>								
December	3,097.8	1,183	880	828	5.1	2.8	1.8	1.6
November	3,100.3	1,098	879	828	5.0	2.7	1.7	1.5
October	3,091.4	1,011	879	829	4.7	2.3	1.8	1.7
September	3,084.3	1,059	880	830	4.4	2.1	1.8	1.8
August	3,054.1	1,107	877	828	3.6	1.3	1.4	1.3
July	3,019.6	1,097	876	826	3.0	0.9	0.9	0.9
June	2,980.9	1,054	875	824	2.5	0.6	0.4	0.3
May	2,954.1	1,007	878	827	2.5	0.7	0.5	0.3
April	2,928.9	1,000	878	827	2.5	0.5	0.3	0.2
March	2,910.8	1,001	876	825	2.6	0.2	0.2	0.1

**Source:** Calculations by Statistics Portugal using the Social Security's Monthly Statement of Earnings (DMR) and the Contributive Relation of the *Caixa Geral de Aposentações* (CGA).

**Table 6: Number of employees and gross monthly earnings per employee in the sector of mainly tradable goods and services (T)  
(total, regular and base)**

Portugal	Quarter ended in the month				Year-on-year change			
	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings
	Thousands	Euro			%			
<b>2020</b>								
March	784.3	1,047	938	893	-0.3	3.1	3.0	2.8
February	787.4	1,160	931	884	0.1	3.3	3.2	2.9
January	792.2	1,263	920	874	0.6	3.1	2.9	2.6
<b>2019</b>								
December	794.7	1,257	913	867	0.8	2.8	2.7	2.5
November	797.2	1,136	913	869	1.0	3.1	2.7	2.5
October	797.0	1,077	914	872	1.1	3.2	2.8	2.7
September	797.6	1,162	914	871	1.3	3.2	2.7	2.6
August	797.4	1,219	916	873	1.4	3.3	2.9	2.7
July	796.2	1,177	916	872	1.5	2.9	2.8	2.7
June	794.5	1,094	916	872	1.7	2.9	2.8	2.7
May	791.6	1,040	915	871	1.9	2.9	2.8	2.8
April	789.0	1,025	913	870	2.2	3.1	3.0	2.9
March	786.4	1,015	911	868	2.3	2.9	3.1	3.0
February	786.7	1,122	902	860	2.5	2.9	3.0	3.0
January	787.4	1,225	894	852	2.5	3.8	3.1	3.1
<b>2018</b>								
December	788.5	1,222	889	847	2.7	3.7	3.1	3.1
November	789.6	1,102	889	848	2.9	3.5	3.1	3.1
October	788.3	1,043	890	849	3.0	2.8	3.1	3.1
September	787.5	1,126	890	849	3.4	3.4	3.1	3.1
August	786.4	1,180	890	849	3.6	4.0	3.0	3.1
July	784.2	1,144	891	849	3.6	3.7	3.0	3.0
June	781.3	1,063	891	849	3.8	3.1	2.9	2.9
May	776.5	1,011	889	847	3.7	2.5	2.8	2.7
April	771.9	994	887	845	3.9	2.3	2.5	2.4
March	768.4	986	884	843	4.2	2.4	2.4	2.3
February	767.5	1,090	876	835	4.4	2.3	2.3	2.2
January	768.1	1,180	867	826	4.5	2.6	2.2	2.0
<b>2017</b>								
December	767.8	1,178	862	821	4.4	2.7	2.2	2.0
November	767.6	1,065	862	822	4.3	2.8	2.2	2.0
October	765.2	1,015	863	824	4.1	2.7	2.3	2.0
September	761.5	1,089	863	824	4.1	2.8	2.2	1.9
August	759.3	1,134	864	824	4.6	3.6	2.9	2.6
July	756.6	1,103	865	824	5.1	4.2	3.1	2.9
June	752.9	1,031	866	825	5.4	4.2	3.5	3.3
May	748.9	986	865	825	5.6	3.4	2.8	2.7
April	743.0	972	865	825	5.4	3.0	3.1	2.9
March	737.7	963	862	824	5.1	3.3	3.2	3.0
February	735.5	1,066	856	817	4.8	3.3	3.2	3.0
January	734.7	1,150	849	810	4.6	3.5	2.8	2.6
<b>2016</b>								
December	735.2	1,148	843	805	4.5	3.5	2.6	2.3
November	736.2	1,036	844	806	4.5	3.5	2.7	2.4
October	734.8	988	844	807	4.3	3.2	2.8	2.6
September	731.7	1,059	845	809	3.9	2.7	2.8	2.6
August	726.2	1,094	839	803	3.1	1.6	1.7	1.5
July	719.9	1,059	838	801	2.4	1.3	1.4	1.1
June	714.1	989	837	799	1.9	1.3	1.3	0.9
May	708.9	954	841	803	1.8	2.1	2.0	1.6
April	705.2	944	839	802	2.1	1.9	1.8	1.5
March	702.2	932	836	800	2.2	1.6	1.5	1.3

Source: Calculations by Statistics Portugal using the Social Security's Monthly Statement of Earnings (DMR) and the Contributive Relation of the *Caixa Geral de Aposentações* (CGA).

**Table 7: Number of employees and gross monthly earnings per employee in the sector of mainly non-tradable market goods and services (NTM) (total, regular and base)**

Portugal	Quarter ended in the month				Year-on-year change			
	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings
	Thousands	Euro			%			
<b>2020</b>								
March	2,353.6	1,141	992	922	3.3	3.4	3.4	3.3
February	2,359.3	1,210	984	915	4.1	3.1	3.3	3.3
January	2,371.1	1,340	973	904	4.6	2.9	3.0	3.0
<b>2019</b>								
December	2,378.4	1,317	963	896	4.7	2.9	2.8	2.7
November	2,388.9	1,229	960	894	4.8	3.1	2.9	2.8
October	2,389.7	1,102	959	893	4.8	3.2	3.0	2.8
September	2,388.4	1,150	958	893	4.9	3.5	3.1	2.9
August	2,383.2	1,220	959	893	4.8	3.7	3.3	3.1
July	2,369.7	1,224	959	892	4.9	3.5	3.1	2.9
June	2,353.4	1,185	960	894	4.9	3.2	3.1	2.8
May	2,327.8	1,122	962	895	4.9	3.1	3.0	2.7
April	2,301.3	1,103	962	895	4.8	3.1	2.9	2.7
March	2,278.1	1,104	959	893	4.7	2.9	2.8	2.6
February	2,266.6	1,174	953	886	4.6	2.7	2.7	2.6
January	2,266.2	1,303	944	879	4.5	3.8	2.7	2.6
<b>2018</b>								
December	2,270.8	1,280	937	872	4.5	3.6	2.6	2.5
November	2,279.1	1,192	932	870	4.5	3.5	2.4	2.4
October	2,279.7	1,068	931	869	4.5	2.1	2.3	2.3
September	2,277.9	1,112	929	867	4.6	2.2	2.1	2.1
August	2,273.0	1,177	928	867	4.7	2.7	1.9	1.9
July	2,259.8	1,183	930	867	4.8	3.0	1.9	1.9
June	2,243.4	1,148	932	869	4.9	2.8	1.9	1.8
May	2,220.1	1,088	934	871	5.0	2.0	1.7	1.6
April	2,194.9	1,069	934	871	5.2	0.7	1.4	1.4
March	2,175.5	1,073	932	870	5.4	0.4	1.2	1.2
February	2,167.1	1,143	927	864	5.4	0.7	1.2	1.2
January	2,168.1	1,255	919	856	5.5	1.7	1.1	1.1
<b>2017</b>								
December	2,173.3	1,235	914	851	5.5	1.8	0.9	1.0
November	2,181.6	1,153	910	849	5.5	1.2	0.7	0.9
October	2,181.0	1,046	910	849	5.5	0.7	0.8	0.9
September	2,177.7	1,087	910	849	5.6	1.0	0.8	0.8
August	2,171.6	1,147	911	850	5.9	1.9	1.0	1.0
July	2,157.0	1,149	912	851	6.4	2.1	1.3	1.2
June	2,138.8	1,117	915	853	6.7	2.1	1.7	1.7
May	2,113.8	1,067	918	857	6.9	1.7	1.7	1.9
April	2,086.8	1,062	921	860	6.7	1.7	1.9	2.1
March	2,064.9	1,069	921	860	6.5	1.9	2.1	2.3
February	2,056.3	1,136	916	854	6.2	2.4	2.2	2.1
January	2,055.5	1,234	910	847	5.9	2.8	2.0	1.9
<b>2016</b>								
December	2,059.4	1,214	905	843	5.6	2.7	1.7	1.6
November	2,068.4	1,139	903	842	5.3	2.6	1.4	1.4
October	2,068.2	1,039	903	842	5.1	2.2	1.6	1.5
September	2,063.2	1,077	903	843	4.7	1.9	1.6	1.7
August	2,050.7	1,126	902	842	4.3	1.4	1.3	1.5
July	2,028.1	1,125	901	841	3.8	0.8	0.7	0.9
June	2,003.7	1,095	900	839	3.3	0.5	0.0	0.1
May	1,977.2	1,049	903	841	3.0	0.3	-0.1	0.0
April	1,955.3	1,044	904	842	2.9	0.2	-0.1	-0.1
March	1,939.6	1,049	902	840	2.9	-0.2	-0.2	-0.2

Source: Calculations by Statistics Portugal using the Social Security's Monthly Statement of Earnings (DMR) and the Contributive Relation of the *Caixa Geral de Aposentações* (CGA).

**Table 8: Number of employees and gross monthly earnings per employee in the sector of mainly non-tradable non-market goods and services (NTNM)  
(total, regular and base)**

Portugal	Quarter ended in the month				Year-on-year change			
	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings	Number of employees	Total gross earnings	Regular gross earnings	Base gross earnings
	Thousands	Euro			%			
<b>2020</b>								
March	1,027.4	1,407	1,345	1,281	1.6	2.8	2.9	3.4
February	1,027.4	1,437	1,342	1,276	1.8	2.9	3.1	3.4
January	1,030.5	1,800	1,329	1,262	2.0	2.7	2.7	3.0
<b>2019</b>								
December	1,028.8	1,795	1,322	1,254	2.1	2.5	2.4	2.5
November	1,025.6	1,763	1,318	1,250	2.3	2.5	2.2	2.2
October	1,020.2	1,408	1,326	1,258	2.3	2.6	2.3	2.3
September	1,014.1	1,437	1,326	1,257	2.2	2.7	2.4	2.4
August	1,015.9	1,791	1,320	1,251	2.2	2.7	2.4	2.4
July	1,016.4	1,776	1,315	1,246	2.2	2.7	2.3	2.3
June	1,018.4	1,743	1,312	1,244	2.3	2.6	2.1	2.0
May	1,017.8	1,384	1,314	1,246	2.4	2.6	1.9	1.8
April	1,013.0	1,373	1,310	1,242	2.4	2.3	1.7	1.6
March	1,011.0	1,369	1,307	1,239	2.4	2.2	1.6	1.5
February	1,009.2	1,396	1,302	1,234	2.1	1.4	1.7	1.6
January	1,010.0	1,753	1,294	1,225	2.0	10.9	1.6	1.6
<b>2018</b>								
December	1,007.3	1,751	1,291	1,223	1.7	10.0	1.8	1.8
November	1,002.8	1,720	1,290	1,223	1.4	10.1	1.7	1.7
October	997.7	1,372	1,297	1,229	1.4	-0.6	1.7	1.6
September	992.4	1,399	1,295	1,228	1.2	-0.7	1.4	1.3
August	994.2	1,744	1,288	1,222	1.3	-0.7	1.0	0.8
July	994.7	1,729	1,285	1,219	1.3	-0.9	1.0	0.8
June	995.7	1,699	1,285	1,219	1.1	-1.1	1.0	0.8
May	994.0	1,349	1,289	1,224	1.0	-1.6	1.1	1.0
April	989.3	1,342	1,288	1,222	0.8	-1.8	0.9	0.8
March	987.6	1,339	1,286	1,221	0.8	-1.8	0.9	0.8
February	988.2	1,377	1,280	1,214	1.0	-1.9	0.6	0.4
January	990.6	1,581	1,273	1,207	1.3	8.8	0.4	0.1
<b>2017</b>								
December	990.5	1,591	1,269	1,202	1.4	8.5	0.2	-0.1
November	988.7	1,562	1,268	1,202	1.6	8.8	0.4	0.1
October	984.2	1,380	1,276	1,210	1.7	-1.8	0.6	0.4
September	980.4	1,409	1,277	1,212	1.7	-1.3	0.7	0.5
August	981.3	1,756	1,275	1,212	1.9	-0.5	0.9	0.7
July	982.4	1,745	1,272	1,209	2.1	-0.5	1.2	1.1
June	984.5	1,717	1,272	1,209	2.3	-0.5	1.6	1.6
May	984.3	1,371	1,275	1,212	2.4	-0.8	1.9	1.9
April	981.2	1,367	1,276	1,212	2.4	-0.7	2.1	2.1
March	979.5	1,364	1,275	1,212	2.3	-0.7	2.3	2.3
February	978.5	1,403	1,272	1,209	2.2	0.4	2.4	2.4
January	978.2	1,453	1,268	1,205	2.2	1.7	2.6	2.5
<b>2016</b>								
December	976.7	1,466	1,267	1,203	2.3	2.9	2.8	2.7
November	973.0	1,435	1,264	1,201	2.2	2.7	2.5	2.5
October	967.9	1,406	1,268	1,205	2.2	2.3	2.3	2.2
September	964.1	1,428	1,268	1,206	2.2	1.8	2.1	2.1
August	962.9	1,765	1,264	1,203	2.0	1.2	1.8	1.8
July	962.4	1,753	1,257	1,196	1.7	1.1	1.6	1.6
June	962.1	1,726	1,252	1,190	1.3	1.2	1.3	1.2
May	961.1	1,382	1,251	1,189	1.1	1.1	1.1	1.0
April	958.6	1,377	1,249	1,187	1.0	0.9	0.8	0.7
March	957.5	1,373	1,246	1,184	1.2	0.6	0.5	0.5

Source: Calculations by Statistics Portugal using the Social Security's Monthly Statement of Earnings (DMR) and the Contributive Relation of the *Caixa Geral de Aposentações* (CGA).

## TECHNICAL NOTE

The statistics on "Gross monthly earnings per employee" published with this Press Release are the result of the calculations and analysis performed by Statistics Portugal on the information from the Monthly Statement of Earnings (DMR – *Declaração Mensal de Remunerações*) from Social Security (SS), following a protocol celebrated between Statistics Portugal and the *Instituto de Informática, I.P.*, and the Contributive Relation (RC – *Relação Contributiva*) of *Caixa Geral de Aposentações* (CGA). These statistics are stored in the StatsLab area of the Statistics Portugal website, where new statistical resources that give useful information for economic and social analysis are published.

The information received from the DMR includes the sum of earnings reported by enterprises to the SS by "Social Security Contributory Scheme" and "Earnings Components". The information received from the RC includes the sum of earnings of the subscribers of CGA by "Type of earnings". Despite the name differences, both the "Earnings Components" and the "Type of Earnings" refer to the earnings components paid to employees.

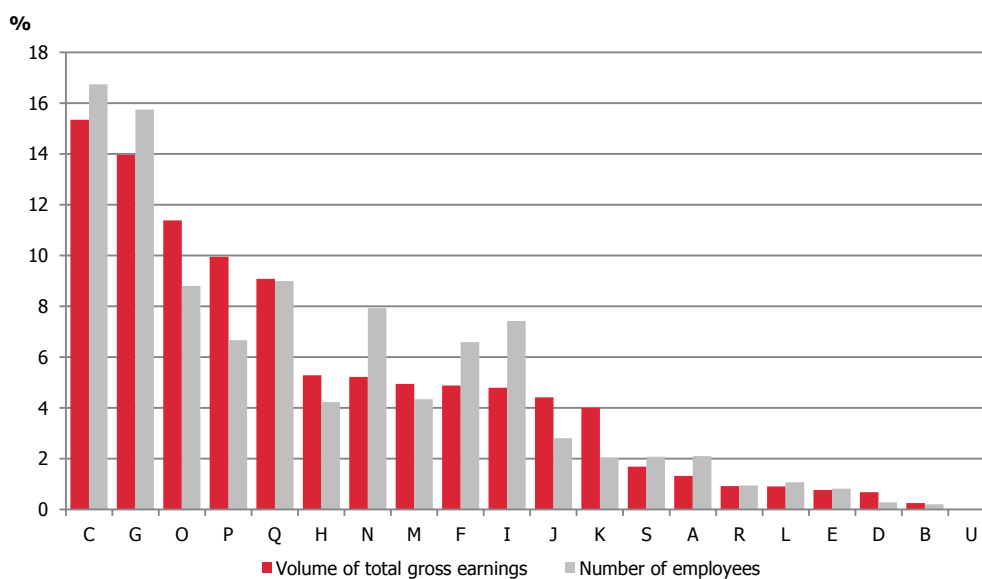
The **gross monthly earnings per employee** correspond to the ratio between the sum of the all earnings paid by the enterprises and the total number of employees in those enterprises. Hence, its evolution reflects changes in the amount of earnings paid (for example, the payment of bonuses, holiday allowances or overtime work), but also in the number of employees and its composition, namely in terms of non-observed characteristics in this dataset (part-time versus full-time workers; educational level; occupation; years of experience; hours worked; among others).

In the calculations by **enterprise's economic activity** (NACE-Rev. 2), the records where it was not possible to match the enterprise with its record on the enterprises' economic activity file compiled by Statistics Portugal (FUE – *Ficheiro de Unidades Estatísticas*) were excluded, which corresponds to 0.7% of enterprises and 0.1% of employees in 2019.

Each employee is counted as many times as the **number of jobs** reported to the Social Security and CGA. For example, an employee with two jobs in two different enterprises is counted twice. Therefore, the total number of employees corresponds to the total number of jobs. Besides, in the information from the SS besides employees, ship-owners, teachers that own educational institutions, members of statutory bodies, and domestic workers are also included.

In the figure below, it is shown the percentage distribution of total gross monthly earnings (volume) and the number of employees by economic activity sector (NACE-Rev. 2) in 2019.

**Distribution of the total gross earnings (volume) and the number of employees by economic activity (NACE Rev. 2) in 2019**

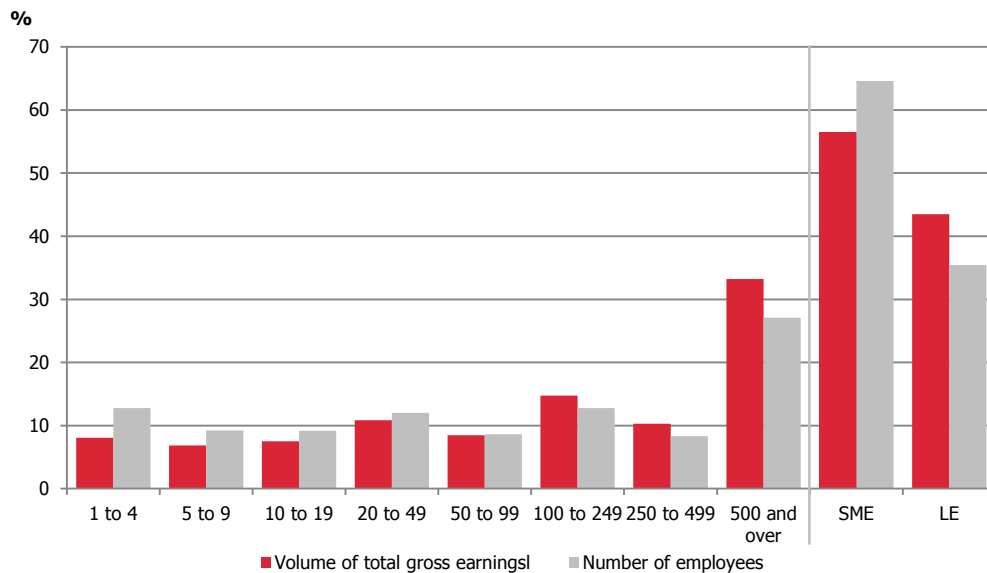


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**Distribution of the total gross earnings (volume) and the number of employees by enterprise size in 2019**



**Earnings components (SS):** correspond to the classification of earnings of Social Security according to its nature, which cover the following:

- Transport and daily allowances
- Bonuses and other monthly benefits
- Commissions
- Compensations owed for termination of the employment contract
- Holiday allowance
- Fees for rendering services due to the accumulation of positions/duties
- Compensation in intermittent employment contracts
- Regular monthly allowances
- Christmas allowance
- Bonuses and other non-monthly benefits
- Base salary
- Meal allowance
- Overtime work
- Night-time work
- Regular non-monthly allowances
- Armed forces
- Variable earnings
- Paid untaken holidays
- Earnings statements corrections
- Temporary work in higher positions
- Promotions

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**Type of earnings (CGA):** correspond to the classification of earnings of *Caixa Geral de Aposentações*, which cover the following:

- Base earnings
- Compensation in intermittent employment contracts
- Seniority payments
- Permanent earnings
- Bonuses and other monthly benefits
- Regular monthly allowances
- Variable earnings
- Transport and daily allowances
- Compensations owed for termination of the employment contract
- Night-time work
- Overtime work
- Meal allowance
- Commissions
- Fees for rendering services due to the accumulation of positions/duties
- Bonuses and other non-monthly benefits
- Holiday allowance
- Paid untaken holidays
- Christmas allowance

#### **Total gross monthly earnings**

The total gross monthly earnings correspond to the sum of all gross earnings (before taxes and contributions to the SS or to CGA) paid by enterprises or institutions. It does not include the amounts exempted from tax withheld and contributions to the SS, for example, meal allowances up to €4.77 or €7.63, if paid in cash or meal cards. It includes all components of the variable "Earnings components" of SS and the variable "Type of earnings" of CGA.

#### **Regular gross monthly earnings**

The regular gross monthly earnings corresponds to the sum of all gross earnings (before taxes and contributions to the Social Security) paid by enterprises or institutions on a regular and monthly basis. It does not include the amounts exempt from tax withheld and contributions to the SS, for example, meal allowances up to €4.77 or €7.63, if paid in cash or meal cards. It only includes the components "Base salary", "Meal allowance", "Regular monthly allowances" and "Bonuses and other monthly benefits" of the variable "Earnings components" of SS and the components "Base earnings", "Seniority payments"; "Permanent earnings", "Bonuses and other monthly benefits" and "Meal allowance" of the variable "Type of earnings" of CGA. In 2019, it corresponded to 81.4% of the total gross monthly earnings.

#### **Base gross monthly earnings**

The base gross monthly earnings corresponds to the base gross earnings (before taxes and contributions to the Social Security) paid by enterprises or institutions. It only includes the component "Base salary" of the variable "Earnings components" of SS and the component "Base earnings" of the variable "Type of earnings" of CGA. In 2019, it corresponded to 76.5% of the total gross monthly earnings.

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### On year rate of change

The on year (year-on-year) change compares the level of the variable in the current quarter/month with that of the corresponding quarter/month of the previous year. This rate of change, considering a seasonal stable pattern, is not affected by this type of fluctuation, but may, however, be influenced by specific effects in a given quarter/month.

### Revisions

The data base of DMR is in continuous updating, always existing some share of non-delivered earnings statements, mainly in the last 4 months. The information received from RC has a definitive character.

The information published with this Press Release that regards the last 3 reference months (moving quarters ended in those months) will be subject to revisions in the next months. These revisions result from the integration of data sent later by some enterprises to the SS. The impact of these revisions, measured by the difference between the estimates now released and the ones published in the Press Release of December of 2019, are the following:

Revision of the estimates of the 4 <sup>rd</sup> quarter of 2019 - major indicators -				
	Unit	October 2019	November 2019	December 2019
Number of enterprises	Thousands	1.1	2.5	4.8
Number of employees		2.4	8.1	12.2
Total gross monthly earnings per employee		0	1	5
Regular gross monthly earnings per employee	Euros	1	0	1
Base gross monthly earnings per employee		0	0	-1
Number of enterprises (y-o-y)		0.3	0.6	1.2
Number of employees (y-o-y)		0.1	0.2	0.3
Total gross monthly earnings per employee	pp	0.0	0.0	0.3
Regular gross monthly earnings per employee		0.0	0.1	0.1
Base gross monthly earnings per employee		0.0	0.0	-0.1

Nota: y-o-y - Year-on-year rate of change.

### Answers' imputation to reduce the revisions level of the values published for the most recent months

In order to reduce the level of revisions of the values published for the most recent months, the DMR data were imputed in two situations: 1) of enterprises that are systematically late in sending the information; and 2) of enterprises that, also systematically, do substantial corrections the values reported in previous months.

In the first case, the detection process for missing enterprises only targets those with 10 or more employees. An enterprise is considered as missing if there was an answer in month m-1, but not in month m (m being the last reference month).

In the second case, it is considered that a company has made a substantial correction of the values already reported when the correction is worth €10,000 or more. The detection of these companies is ensured by a combination of two methods: an *ad hoc* criterion and through the supervised Machine Learning algorithm in the form of the Support Vector Machine (SVM).

A given enterprise meets the *ad hoc* criterion if it meets at least one of two conditions: (i) it has made at least 9 corrections in the past 12 months; or ii) it has made at least 3 corrections in the past 4 months.

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In the second case, it is considered that a company has made a substantial correction of the values already reported when the correction is worth €10,000 or more. The detection of these companies is ensured by a combination of two methods: an *ad hoc* criterion and through the supervised Machine Learning algorithm in the form of the Support Vector Machine (SVM).

A given enterprise meets the *ad hoc* criterion if it meets at least one of two conditions: (i) it has made at least 9 corrections in the past 12 months; or ii) it has made at least 3 corrections in the past 4 months.

The SVM algorithm allows the identification of enterprises that systematically correct information through an optimization process. In this procedure, we use a set of training data (records of enterprises that correct information and of enterprises that do not) to which the SVM algorithm is applied in order to obtain a classification model that maximizes the distinction between the two groups of enterprises, i.e., a model with maximum success rate (accuracy) in identifying enterprises that correct the information submitted previously. Although most enterprises are identified simultaneously by both methods (*ad hoc* and SVM), each allows identifying fringes of enterprises that the other does not. By using both, it is guaranteed that a greater number of enterprises are identified.

Once the enterprises that need imputation of answers are identified, the earnings volume is imputed by enterprise and earnings component. The imputation process is different according to the earnings component. For regular earnings components, such as "Bonuses and other monthly benefits", the "Base salary", the "Meal allowance" and the "Night-time work", the amount reported in the previous month is used. For non-regular components, such as the "Bonuses and other non-monthly benefits", the "Holyday allowance" and the "Christmas allowance", the values of the last year are used multiplied by the year-on-year change of the regular earnings of the previous month. For the remaining earnings components, the median values of the last 12 months are used, provided there are at least 6 observations. Otherwise, the value of the last month is used.

Due to rounding, the totals in tables and figures do not always match the sum of parts.

The present Press Release includes data received on 17 January 2020.

**Next Press Release:** 7 May 2019.