Prof. Dra. María del Carmen Delgado

Department of Economics,

Loyola University Andalusia

2nd August 2016

Dear Editor,

Following your instructions I have pleasure in sending you responses to referees' comments above the version of our paper /Campoy-Muñoz, Cardenete, Delgado and Hewings: "Effects of a reduction in employers' Social Security contributions: Evidence from Spain"/.

First of all, the authors would like to thank the Reviewers for their helpful suggestions for the paper, which have all been taken into account in revising and improving the manuscript. We hope that these changes will be well received by the referees and the editor. Reviewer comments are presented in italics and the corresponding answers in regular type face.

Please contact us if any other question must be clarified or amended.

Yours sincerely,

Maria del Carmen Delgado

/Campoy-Muñoz, Cardenete, Delgado and Hewings: "Effects of a reduction in employers' Social Security contributions: Evidence from Spain"/.

Reviewer #1

We would like to thank Reviewer #1 for the indications and comments for improving our paper. Reviewer's comments are presented in italics and separated by paragraphs, the corresponding answers appears just below in regular type face.

This paper analyzes the impact of a reduction in employers' Social Security contributions on unemployment rate in Spain. Considering three fiscal scenarios (without fiscal compensation, with indirect taxes compensation and with personal income taxes compensation), this paper employs a computable general equilibrium model and uses the SAMSP-09 database and concludes that a reduction in employers' Social Security contributions fails to reduced unemployment when they are combined with compensation by revenues from indirect taxes, but this proposal has better results in terms of reduction of unemployment rate if it is combined with personal income taxes.

In my opinion, the main conclusion of the paper is clear and potentially significant, because it offers a clear answer to a very specific proposal from the Spanish Confederation of Enterprise Organizations. The analysis is correct in the context of Computable General Equilibrium models, but I think that a weakness is that the model is static, and the temporary path is very important in the changes that the fiscal policy causes in the unemployment and in others variables, because the short-term effects can be very different from the long-term effects. Authors should consider dynamic aspects in their model.

This discussion is something usual in CGE literature. The choice between a static or dynamic approach depends on the type of analysis. In this approach, our goal was to capture the short-run effects of a fiscal reform that has not been anticipated. It is true that could be interesting to enlarge the model with a dynamic CGE if you are looking for long-run effects, but this approach was not our goal.

Moreover, I think that to publish the paper is necessary to explain better the database used, SAMSP-09 (or SAMES-09?). These data are not well known, because are not clearly and precisely documented. The database is not readily available to any researcher for purposes of replication.

The PhD dissertation referred is available at the public library of University of Seville, upon request. However, this option does not make it fully available to any researcher as

pointed by the reviewer. In any case, it will be provided in a new version draft as appendix.

The denomination of the database is SAMSP-09 and the typo (SAMES-09) will be corrected throughout the text in the revised version of the paper. The information about the data base will be enlarged as follows: "The data base was built from the Spanish input-output framework for year 2005 and updated to year 09by means of the cross entropy method (Cardenete and Sancho, 2006). This fact makes it suitable for the empirical analysis in hand because the initial CEOE proposal is dated by this year, allowing to perform a more realistic analysis."

In addition, the next Figure will be added to the revised version of the paper, in order to enlarge the information about the SAMSP-09:

Figure 2. Weight in Production, GDP, GVA and unemployment rate by sector.

		Weights (%) in			Rate of unemployment (%)
#Account	**Sectors**	**Production**	**GDP**	**GVA**	
1	Agriculture and stockbreeding,	4.0%	5.2%	4.8%	19.7%
2	Fishing	0.4%	0.6%	0.2%	
3	Coal	0.1%	-0.1%	0.0%	9.2%
4	Petroleum and natural gas	1.3%	-2.5%	0.0%	
5	Extraction industry	0.3%	-0.3%	0.2%	
6	Petroleum refine and fuel processing	2.4%	1.6%	0.3%	
7	Electric power industry	2.0%	1.8%	1.5%	7.1%
8	Gas and hot water industry	0.5%	0.3%	0.3%	7.2%
9	Water collection, treatment and supply	0.3%	0.3%	0.3%	
10	Food, beverage and tobacco industry	3.9%	4.5%	1.5%	11.9%
11	Textile industry	2.4%	2.4%	0.7%	
12	Timber, cork and paper industry	2.0%	0.9%	1.0%	
13	Chemical industry	4.7%	2.9%	1.9%	
14	Construction materials	2.4%	1.8%	1.7%	
15	Ferrous metallurgy	3.8%	0.4%	1.6%	
16	Fabricated metal products	3.1%	2.0%	2.1%	
17	Machinery industry	7.0%	4.2%	2.9%	
18	Automobile	3.4%	2.6%	0.9%	
19	Other transportation equipment	0.7%	0.6%	0.3%	
20	Various manufacturing industries	4.8%	4.3%	3.1%	
21	Construction	10.3%	15.1%	11.4%	26.0%
22	Commerce	3.4%	3.0%	7.6%	10.5%
23	Transport, and communications	8.6%	8.5%	9.7%	9.5%
24	Other services	16.7%	20.4%	26.0%	9.3%
25	Commercial services	11.0%	18.5%	19.2%	
26	Non-commercial services	0.6%	1.0%	0.9%	

Note:
Production is calculated by aggregating the intermediate demand and the final demand for each sector.
GDP is calculated from the expenditure point of view, by aggregating the values of private consumption, investment, public expenditure and net exports using constant prices. Negative figures are explained by the high level of imports from the rest of the world.
GVA (Gross Value Added) is calculated by aggregating the payments to primary factors and the social security contributions paid by employers. In all the cases, calculus have been done based on SAMSP-09.
Unemployment rate is calculated as an average of quarterly data from Labor Force Survey, aggregating data when correspondence between SAM accounts and branches of activity is not available.

Source: SAMSP-09 and INE (2016).

Reference: Cardenete, M.A. and Sancho, F. (2006): "Elaboracion de una matriz de contabilidad social a través del Método de Entropía Cruzada: España 1995!, Estadística Española, nº 48,p.67-100.

Minor comment

In paragraph after equation (2), lj and kj are the technical coefficients for the corresponding factor, but they do not appear in equation (2).

The author's intention was differentiating between endowments and technical coefficients for the primary factors, since these variable are employed along the text. However, after the reviewer's comments, it seems more appropriate to make it from the fisrt appearance of the technical coefficients, concretely after equation (7). This point will be address in the revised version of the paper.

/Campoy-Muñoz, Cardenete, Delgado and Hewings: "Effects of a reduction in employers' Social Security contributions: Evidence from Spain"/.

Reviewer #2

We would like to thank Reviewer #2 for the indications and comments for improving our paper. Reviewer's comments are presented in italics and separated by paragraphs, the corresponding answers appears just below in regular type face.

[1] *This paper analyses the impact on Spanish unemployment of reductions in employers' social security contributions (ESSC). My main concern is that the adoption of wages as numeraire in such a setting is a problematic modelling strategy. The authors follow Kehoe's et al. (1995) approach to capture feedback effects between the real wage and the unemployment rate. In fact, Kehoe et al. (1995) adopt a commodity price index in their original framework, not the wage, which looks much more appropriate. Of course, one can choose any numeraire but then the interpretation of results should be done accordingly, and I think in this paper it has not been well addressed. The authors do not report the capital remuneration and other variables in their tables that would help us to get a better idea of the evolution after the shock.*

We should clarify, and will do in the revised version of the paper, that all the results provided in Table 1 to 3 are presented in nominal terms to be interpreted, because the nominal wage has been used as numeraire in this empirical application as pointed by the reviewer. In addition, to offer a more detailed results, Table 1 will be modified including new variables (as required in paragraph #1) and a new definition of the units employed to present the differences between the benchmark and the counterfactual equilibria (point required in paragraph #6)

A new Table 2 will be also included in the result section, which offer the effects on prices of products and value added, as well, as level of activity for each sector, to show the effects of a such reduction as micro level (point suggested in paragraph 5). This latter table allows a better comprehension of the evolution of the activity level and thus, the evolution of the unemployment rate. Notice, that this latter table has been done only for the second scenario (a reducction of 5 pp), whereas the result for the first scenario are available upon request.

Table 1. Effects of a cut in ESSC

	Benchmark	Fall in ESSC	Compensation		Fall in ESSC	Compensation	
			IT	DT		IT	DT
Tax rate[b]	-	**-2.00**	**0.48**	**0.45**	**-5.00**	**1.23**	**1.11**
Unemployemnt rate[b]	17.86%	-1.532	0.000	-1.683	-3.934	0.007	-4.324
CPI[a]	1	-0.015	0.000	-0.017	-0.038	0.007	-0.042
IPI[a]	1	-0.015	-0.002	-0.016	-0.038	0.001	-0.041
Capital cost[a]	1	-0.014	-0.015	-0.018	-0.037	-0.035	-0.045
FPI[a]	1	-0.015	0.010	-0.017	-0.038	0.036	-0.042
Activity level[a]	1	0.000	-0.005	0.001	0.000	-0.015	0.001
Domestic activity level[a]	1	0.000	-0.004	0.001	0.000	-0.012	0.002
Investment level[a]	1	-0.006	-0.009	0.026	-0.016	-0.038	0.065
Consumption/GDP[b,c]	67.95%	1.259	-0.011	0.310	3.221	0.078	0.764
Disposable income/GDP[b,c]	82.04%	0.024	-0.080	-1.007	0.603	0.026	-2.550
Fiscal burden[b,c]	38.61%	-0.513	0.208	0.709	-1.317	0.548	1.758
Indirect fiscal burden[b,c]	18.62%	-0.603	0.213	-0.587	-1.543	0.512	-1.506
Direct fiscal burden[b,c]	19.98%	0.090	-0.004	1.296	0.225	0.036	3.264
Public déficit/GDP[b,c]	12.41%	0.243	-0.053	-1.008	0.603	-0.125	-2.552
Foreign current balance/GDP[b,c]	5.69%	0.001	0.230	-0.002	0.004	-0.682	-0.006

Note: (a) Index. Differences respect to benchmark equilibrium are expressed as a decimal; (b) Percentage of GDP. Differences respect to benchmark equilibrium are expressed in percentage points (c) GDP is calculated from the expenditure point of view, by aggregating the values of private consumption, investment, public expenditure and net exports using constant prices.
Source: Authors' elaboration.

Table 2. Effects of a cut in ESSC by sector.

ESSC -2.00	Without compensation			Compensation with IT			Compensation with DT		
#Account	Product price	VA price	Activity level	Product price	VA price	Activity level	Product price	VA price	Activity level
1	-0.0154	-0.0155	0.0022	0.0043	-0.0151	-0.0096	-0.0174	-0.0179	-0.0083
2	-0.0155	-0.0161	0.0028	0.0648	-0.0159	-0.0546	-0.0170	-0.0175	-0.0105
3	-0.0151	-0.0144	0.0008	0.0071	-0.0144	-0.0059	-0.0163	-0.0146	-0.0037
4	-0.0152	-0.0153	0.0012	0.0101	-0.0150	-0.0156	-0.0166	-0.0173	-0.0053
5	-0.0152	-0.0151	-0.0012	0.0030	-0.0149	-0.0049	-0.0167	-0.0167	0.0049
6	-0.0152	-0.0149	0.0014	0.0417	-0.0145	-0.0188	-0.0167	-0.0173	-0.0058
7	-0.0151	-0.0150	0.0013	0.0041	-0.0146	-0.0062	-0.0170	-0.0175	-0.0056
8	-0.0152	-0.0149	0.0011	0.0080	-0.0146	-0.0077	-0.0169	-0.0176	-0.0050
9	-0.0151	-0.0149	0.0018	-0.0122	-0.0147	0.0026	-0.0164	-0.0162	-0.0082
10	-0.0153	-0.0152	0.0021	0.0311	-0.0150	-0.0208	-0.0167	-0.0163	-0.0087
11	-0.0153	-0.0154	0.0020	0.0610	-0.0153	-0.0431	-0.0165	-0.0162	-0.0083
12	-0.0153	-0.0153	0.0008	0.0027	-0.0151	-0.0071	-0.0166	-0.0164	-0.0034
13	-0.0152	-0.0151	0.0005	0.0222	-0.0149	-0.0070	-0.0166	-0.0165	-0.0023
14	-0.0152	-0.0151	-0.0015	-0.0032	-0.0149	-0.0046	-0.0166	-0.0164	0.0060
15	-0.0152	-0.0150	-0.0008	0.0027	-0.0147	-0.0047	-0.0166	-0.0168	0.0031
16	-0.0152	-0.0153	-0.0015	0.0011	-0.0152	-0.0070	-0.0165	-0.0163	0.0058
17	-0.0152	-0.0152	-0.0019	0.0152	-0.0150	-0.0089	-0.0165	-0.0162	0.0076
18	-0.0152	-0.0149	-0.0013	0.0192	-0.0147	-0.0056	-0.0165	-0.0160	0.0050
19	-0.0152	-0.0151	-0.0017	0.0096	-0.0150	-0.0052	-0.0165	-0.0161	0.0067
20	-0.0153	-0.0153	0.0006	0.0146	-0.0152	-0.0110	-0.0165	-0.0164	-0.0028
21	-0.0151	-0.0151	-0.0055	-0.0067	-0.0149	-0.0081	-0.0164	-0.0162	0.0222
22	-0.0153	-0.0153	0.0012	-0.1006	-0.0151	0.0429	-0.0168	-0.0168	-0.0050
23	-0.0152	-0.0152	0.0013	-0.0089	-0.0150	0.0005	-0.0168	-0.0168	-0.0053
24	-0.0153	-0.0153	0.0002	-0.0085	-0.0152	-0.0010	-0.0164	-0.0163	-0.0010
25	-0.0154	-0.0154	0.0013	-0.0096	-0.0151	0.0019	-0.0172	-0.0173	-0.0050
26	-0.0153	-0.0154	0.0001	-0.0078	-0.0153	-0.0009	-0.0160	-0.0158	-0.0003

Note: Differences respect to benchmark equilibrium (value =1) are expressed as a decimal

Source: Authors' elaboration.

Table 2. Effects of a cut in ESSC by sector (cont.).

ESSC -5.00	Without compensation			Compensation with IT			Compensation with DT		
#Account	Product price	VA price	Activity level	Product price	VA price	Activity level	Product price	VA price	Activity level
1	-0.0385	-0.0387	0.0054	0.0184	-0.0368	-0.0268	-0.0435	-0.0447	-0.0209
2	-0.0389	-0.0403	0.0070	0.1911	-0.0391	-0.1388	-0.0424	-0.0438	-0.0265
3	-0.0377	-0.0360	0.0021	0.0266	-0.0358	-0.0173	-0.0406	-0.0365	-0.0095
4	-0.0381	-0.0383	0.0031	0.0356	-0.0368	-0.0426	-0.0415	-0.0431	-0.0135
5	-0.0380	-0.0378	-0.0031	0.0150	-0.0365	-0.0173	-0.0416	-0.0418	0.0123
6	-0.0380	-0.0372	0.0034	0.1273	-0.0353	-0.0509	-0.0417	-0.0432	-0.0147
7	-0.0378	-0.0374	0.0032	0.0182	-0.0354	-0.0178	-0.0424	-0.0436	-0.0143
8	-0.0379	-0.0374	0.0028	0.0293	-0.0353	-0.0223	-0.0421	-0.0439	-0.0126
9	-0.0377	-0.0373	0.0045	-0.0283	-0.0363	0.0073	-0.0410	-0.0405	-0.0206
10	-0.0382	-0.0380	0.0052	0.0950	-0.0371	-0.0542	-0.0418	-0.0408	-0.0220
11	-0.0382	-0.0385	0.0049	0.1839	-0.0378	-0.1129	-0.0413	-0.0405	-0.0210
12	-0.0382	-0.0382	0.0020	0.0142	-0.0373	-0.0212	-0.0415	-0.0410	-0.0087
13	-0.0380	-0.0378	0.0013	0.0703	-0.0367	-0.0197	-0.0414	-0.0411	-0.0059
14	-0.0380	-0.0378	-0.0038	-0.0027	-0.0367	-0.0176	-0.0414	-0.0411	0.0153
15	-0.0380	-0.0374	-0.0020	0.0142	-0.0360	-0.0158	-0.0416	-0.0418	0.0078
16	-0.0381	-0.0383	-0.0036	0.0093	-0.0375	-0.0239	-0.0413	-0.0407	0.0147
17	-0.0381	-0.0380	-0.0048	0.0500	-0.0372	-0.0298	-0.0413	-0.0405	0.0193
18	-0.0380	-0.0372	-0.0032	0.0618	-0.0363	-0.0182	-0.0413	-0.0400	0.0127
19	-0.0380	-0.0378	-0.0042	0.0338	-0.0371	-0.0181	-0.0412	-0.0402	0.0170
20	-0.0382	-0.0383	0.0016	0.0477	-0.0375	-0.0322	-0.0413	-0.0409	-0.0072
21	-0.0379	-0.0377	-0.0136	-0.0135	-0.0368	-0.0331	-0.0409	-0.0405	0.0561
22	-0.0382	-0.0382	0.0030	-0.2749	-0.0370	0.1489	-0.0419	-0.0419	-0.0128
23	-0.0381	-0.0381	0.0031	-0.0192	-0.0368	0.0014	-0.0419	-0.0421	-0.0134
24	-0.0382	-0.0383	0.0004	-0.0184	-0.0375	-0.0049	-0.0409	-0.0407	-0.0024
25	-0.0385	-0.0386	0.0033	-0.0215	-0.0371	0.0045	-0.0429	-0.0432	-0.0127
26	-0.0383	-0.0384	0.0002	-0.0166	-0.0381	-0.0023	-0.0401	-0.0394	-0.0008

Note: Differences respect to benchmark equilibrium (value =1) are expressed as a decimal
Source: Authors' elaboration.

As a result of the previous tables, the text of the section *#3.1 Results* will be slightly enlarged (additions in blue face) as follows:

[…] Table 1 shows the results for the aforementioned scenarios. For the scenarios without compensation, the reduction of ESSC causes a fall in consumer prices (*cpi*) and the unemployment rate (*u*). For the latter, the difference with respect to benchmark equilibrium is expressed in percentage points, resulting in a new unemployment rate of 16.33 and 13.93 under the first and second scenarios, respectively. […]

The effects on the aggregate production are reflected by the evolution of the activity level, for which the unitary reference value has been adopted for a sake of convenience, as happens with the level of investment. A look to Table 2, which presents the effect on activity level by sector, show that more of the sector slightly increase their activity compared with the benchmark equilibrium, resulting in a reduction of the unemployment rate. The investment level exhibits a slight reduction due to the decrease in saving for all the sectors, since the CGE is a savings-driven model. The decrease of savings can be explained by the cut in ESSC as follows: (1) the cut in ESSC reduces the labor cost and therefore modifies the firm's optimal labor-capital ratio; (2) but the nominal wage is the fixed (numeraire) in the CGE, so that the price of the capital must decrease in order to be fully employed; (3) this fall in capital price (greater as the cut of ESSC increase) results in a decrease of the value-added factor price, as can be observed in Table 2, and therefore in the consumer (*CPI*) and investment prices (denoted as IPI in Table 1), fueling consumption and discouraging savings. The increase of consumption can explain the aforementioned increase of activity by some sectors.

Turning attention to scenarios with compensation, the variation in the compensating tax rate is presented in the first row of the table 1. So, a cut of 2 pp of ESSC could be compensated by increasing indirect tax by 0.48 pp or direct tax by 0.45 pp. Under the compensation with the indirect tax scenario (*IT*), consumer prices and unemployment remain practically unchanged, even with a cut of 5 pp where the changes are in the third decimal position. In this latter case, the fall in the levels of activity and investment are still small but higher than in scenarios without compensation. In fact, sectors that showed positive figures in variations of activity level under non- compensatory scenario turned negative, while the remaining ones decrease to a higher extent. The fairly slight increase in *cpi* and the fall in savings respectively explain both declines. The figures for consumption show different results depending on the size of the fall of ESSC. With a cut of 2 pp, the private demand for goods and services decreases slightly due to a combination of no changes in *cpi* and a small dip in the capital price (-0.015). The latter results in a fall of the household's income from their endowment of capital. Whereas with a cut of 5 pp, the private consumption increases because the households' disposable income (*DI*) is higher. The increase in *DI* can be explained as follows: first, households receive higher transfers from

the rest of the world (T_{row}), viewed as residents' consumption abroad minus non-resident's consumption domestically; and secondly, T_{row} increases because the increase in price of the rest of the world (denoted as FPI in Table 1) is larger than in the domestic consumption prices. As expected, the figures for fiscal aggregates are better, especially in the case of public deficit ratio with a slight improvement, due to the compensation with the *IT* revenues but also the increase in revenues from direct taxation […]

[2] *Another important comment is about the way in which the authors present their results and derive conclusions. In my view, it would be less confusing if they had presented the impact on unemployment in percentage point differences with respect to the benchmark level (as Kehoe et al. (1995) do). The authors, instead, present it in percentage change with respect to the 17.86% initial unemployment level. The strongest effect derived for unemployment arises in the DT compensation scenario of a fall of 5.00 of the ESSC and is of a -4.324% (in last column of Table 1). This implies that unemployment turns from 17.86% to 17.08% (=17.86 *(1-0,04324)). So an important conclusion to be derived from the results should be that the policy measures they are analyzing would have a very limited effect on the unemployment rate. This does not seem to be very clear in their conclusions*

This comment has been addressed as indicated in the previous point.

[3] *In general, the paper does not develop very much which sort of contribution they are making to the literature, neither justify their modelling approach and the underlying data they use. As they mention very briefly at the end of the introduction, there are other predecessors looking at what seems similar issues. What is, then, their contribution? In order to better motivate the paper a more detailed discussion of close modelling attempts would be appropriate. A similar comment applies to their modelling strategy. Why this approach to model the labor market? Other alternatives should be, from my point of view, discussed, explaining their choice. A reference to a review of CGE modelling strategies in labor markets would be very much welcome (e.g., Boeters and Savard, 2012).*

Following the suggestion of the reviewer, a more detailed discussion of close modelling attempts will be included in the manuscript in the section *#2.6 Labour market*, as follows:

"Taking into consideration the previous papers dealing with the impact of reduction on social security contributions in Spain, it should be noted that our paper follows their modelling strategy for the labor market. The works of Sancho and Polo (1990), Cardenete (2004), Llop and Manresa (2004) and Alvarez- Martinez and Polo (2014) fix the real wage as we do[1]. This simple specification picks up in a stylized way some of

[1] Also in the short term, the work of Bajo-Rubio and Gómez-Plana (2004) is the only one that dealing with this issue by means of a more complex modelling of the labor market block, concretely using a matching function.

the labor market rigidities that have been affecting the national economy at least in the short run, for which the model has been develop because our goal was to capture the short-run effects of a fiscal reform that has not been anticipated. However, for the medium and long run, it would be more appropriate other modelling strategy for both the CGE model and the labor market block, as pointed by Boeters and and Savards (2012).

Reference: Boeters. S. and Savard, L. (2012) "Labor market modeling in a CGE context" in Dixon, P. And Jorgenson, D. (Eds.) Handbook of Computable General equilibrium modeling, Elsevier, Northholland, available at: discussion-paper-201-labour-market-cge-models%20.pdf

Finally, the section *#3.1 Results* will be also completed with a discussion of the close modelling attempts in Spain, as follows

[…] Regarding to the previous works, the results obtained are not directly comparable with those with a regional framework (Cardenete, 2004; Llop and Manresa, 2004). Among those referred to the national economy, our results can be compared partially with those obtained by Alvarez-Martínez and Polo (2014), in which reductions of 1.5 and 5 percentage points of ESSC are simulated using a Social Accounting Matrix of Spain for year 2000. Both reductions are assessed within the framework of compensating scenarios by increasing the rates of VAT and personal income or reducing the unemployment benefits. The behavior of the national economy is quite different under the scenario of compensation with indirect tax. Alvarez-Martinez and Polo (2014) obtained a fall in unemployment rate caused by a drop in CPI and an increase in production, just the opposite to the result obtained with our model. On the contrary, under the scenario of compensation with direct taxes, both models yields similar results, that is, higher a fall in unemployment compared with non-compensatory scenario, an increase of consumption fueled by the lower CPI and a rise of the activity level. However, the increase on direct tax to compensate the cut of ESSC are higher in our work. These differences, as well as those stated under the scenario with indirect tax, could be explained by the different level of disaggregation of taxes.

[4] *Additionally, the paper uses a database that is not publicly available, since it is derived from a PhD Dissertation. Any advantages in doing so? No comments or explanations are given in that regard. Furthermore, there is very little information on the underlying data in this modelling exercise. A table presenting information (and not just the names, as Figure 1 does) of the sectors in the economy: their weight in production, unemployment, value added… would be important. Or more detail on the weight and values of the different macroeconomic aggregates of Spain in the base year. This looks particularly important if, as said before, the base data are not publicly available.*

The PhD dissertation referred is available at the public library of University of Seville, upon request. However, this option does not make it fully available to any researcher as pointed by the reviewer. In any case, it will be provided in a new version draft as appendix.

The denomination of the database is SAMSP-09 and the typo (SAMES-09) will be corrected throughout the text in the revised version of the paper. The information about the data base will be enlarged as follows: "The data base was built from the Spanish input-output framework for year 2005 and updated to year 09by means of the cross entropy method (Cardenete and Sancho, 2006). This fact makes it suitable for the empirical analysis in hand because the initial CEOE proposal is dated by this year, allowing to perform a more realistic analysis."

In addition, the next Figure will be added to the new draft in order to enlarge the information about the SAMSP-09:

Figure 2. Weight in Production, GDP, GVA and unemployment rate by sector.

		Weights (%) in			Rate of unemployment (%)
#Account	**Sectors**	**Production**	**GDP**	**GVA**	
1	Agriculture and stockbreeding,	4.0%	5.2%	4.8%	19.7%
2	Fishing	0.4%	0.6%	0.2%	
3	Coal	0.1%	-0.1%	0.0%	9.2%
4	Petroleum and natural gas	1.3%	-2.5%	0.0%	
5	Extraction industry	0.3%	-0.3%	0.2%	
6	Petroleum refine and fuel processing	2.4%	1.6%	0.3%	
7	Electric power industry	2.0%	1.8%	1.5%	7.1%
8	Gas and hot water industry	0.5%	0.3%	0.3%	7.2%
9	Water collection, treatment and supply	0.3%	0.3%	0.3%	
10	Food, beverage and tobacco industry	3.9%	4.5%	1.5%	11.9%
11	Textile industry	2.4%	2.4%	0.7%	
12	Timber, cork and paper industry	2.0%	0.9%	1.0%	
13	Chemical industry	4.7%	2.9%	1.9%	
14	Construction materials	2.4%	1.8%	1.7%	
15	Ferrous metallurgy	3.8%	0.4%	1.6%	
16	Fabricated metal products	3.1%	2.0%	2.1%	
17	Machinery industry	7.0%	4.2%	2.9%	
18	Automobile	3.4%	2.6%	0.9%	
19	Other transportation equipment	0.7%	0.6%	0.3%	
20	Various manufacturing industries	4.8%	4.3%	3.1%	
21	Construction	10.3%	15.1%	11.4%	26.0%
22	Commerce	3.4%	3.0%	7.6%	10.5%
23	Transport, and communications	8.6%	8.5%	9.7%	9.5%
24	Other services	16.7%	20.4%	26.0%	9.3%
25	Commercial services	11.0%	18.5%	19.2%	
26	Non-commercial services	0.6%	1.0%	0.9%	

Note:
Production is calculated by aggregating the intermediate demand and the final demand for each sector.
GDP is calculated from the expenditure point of view, by aggregating the values of private consumption,

investment, public expenditure and net exports using constant prices. Negative figures are explained by the high level of imports from the rest of the world.
GVA (Gross Value Added) is calculated by aggregating the payments to primary factors and the social security contributions paid by employers. In all the cases, calculus have been done based on SAMSP-09.
Unemployment rate is calculated as an average of quarterly data from Labour Force Survey, aggregating data when correspondence between SAM accounts and branches of activity is not available.

Source: SAMSP-09 and Instituto Nacional de Estadística (2016).

Reference:

Cardenete, M.A. and Sancho, F. (2006): "Elaboracion de una matriz de contabilidad social a través del Método de Entropía Cruzada: España 1995", Estadística Española, nº 48,p.67-100.

Instituto Nacional de Estadítica (2016). Encuesta de Población Activa. Available at: http://www.ine.es/dynt3/inebase/es/index.htm?padre=982&capsel=986

[5] *The results presented only cover macroeconomic aggregates. One of the main strengths of CGE models is their capacity to derive micro and macroeconomic effects in a consistent manner. If one is to concentrate on the macro results then maybe other methodologies would be better tuned (DSGE models, for example). Furthermore, even within the macroeconomic results it is common to look to a broader set of elasticities of unemployment to wages, as in Kehoe et al. (1995). In particular, in this setting looking at the results for its infinite value (rigid wages case) and zero value (perfectly flexible real wages) is a common strategy to test the model more deeply.*

As pointed by the referee, sensitivity analysis can be also done for extreme values. This analysis could be provided whether all the changes proposed are accepted.

[6]`*Other minor comments are that the authors could better explain the role of their saving-driven closure in the model and how they are measuring the "activity level" they report in the results (aggregate output? GDP?). The latter variable remains nearly unchanged. It is not clear how its variation is expressed. If activity levels do not vary, how can unemployment vary? The comment "the labor supply is perfectly elastic up to the level of the total labor endowment where it turns inelastic" seems inconsistent with the idea that there are feedback effects between the real wage and the unemployment rate. The authors could also mention what the source for the rest of elasticities (apart from the one of the real wage with respect to unemployment) is.*

Regarding to the minor comments pointed out by the reviewer:

i) The role of the saving-driven closure rule in a static CGE model is to guarantee that all flows are accounted for and balanced in counterfactual equilibrium, thus obtaining a

balanced SAM that depicts a new simulated equilibrium. This clarification will be made in the new draft in the section *#2.5 Investment and savings.*

ii) The comments about activity level have been addressed in point 1.

iii) The authors agree that the comment about labor supply could be confusing, due to that it will be replaced by "the labor factor can be supplied by households up to the level of total endowment, although it is not reached due to the rigidities in the labor market."

iv) All the parameters in the model have been calibrated from the SAMSP-09, with the exception of the elasticity of the real wage with respect to unemployment, the rate of unemployment, taken from the Instituto Nacional de Estadística (2016), and the unemployment benefits for the base year, taken from the Ministerio de Empleo (2016)

References:

Instituto Nacional de Estadítica (2016). Encuesta de Población Activa. Available at: http://www.ine.es/dynt3/inebase/es/index.htm?padre=982&capsel=986

Ministerio de Empleo (2016). Cuentas integradas de protección social. Available at: http://www.empleo.gob.es/estadisticas/ANUARIO2013/CPS/index.htm.

[7] *I would encourage the authors to use another numeraire, (or, at least, to report and discuss in more depth the evolution of nominal variables) and keep on working in such an important avenue of research, while better stressing the motivation for their choice of modelling strategies and benchmark data.*

The main contribution of the paper is performing an empirical analysis for the Spanish economy to answer one of the main claim of the national business organization, as well as recent recommendations for fiscal reforms, but within the fiscal consolidation framework required by the economic and financial reality and the compliance of the Stability and Growth Pact. In such a way, the results stand out that the shift to direct taxes has better effects on unemployment that to indirect taxes for the Spanish economy. Other relevant conclusion drawn for the analysis is that the reduction of ESSC should be sizeable to have effects on unemployment, considering it when reforms are negotiated.

Regarding to the modelling approach, both the CGE model and the block of the labor market are appropriate for the temporal path for which the analysis has been performed as authors have argued. On the other hand, the year of the benchmark data was the main reason for the election of such database, allowing us to perform an analysis with a SAM that represents the structure of the Spanish economy closer to the date of the proposal.

Undoubtedly, a more complex modelling of the labor market, making closer to the reality, is desirable and it will be a future line of research.