

***Multinational firms go away:
A CGE analysis of the impact of divestments***

Antonio G. Gómez Plana
(Universidad Pública de Navarra)

María C. Latorre
(Universidad Complutense of Madrid)

1. Introduction

Most studies on Multinational Enterprises (MNEs) focus on the impact of their expansion (i.e., their arrival to new countries, the growth of inward or outward foreign direct investment (FDI) flows and the like). As examples, we have developed some research on the effects of FDI inflows in the Czech Republic in Latorre, Bajo-Rubio and Gómez-Plana, 2009; Latorre, 2010 and Latorre and Gómez-Plana, 2011. However, as the World Investment Report (WIR) points out, divestments are quite common among the operations of MNEs. “[They] affect between one quarter and four fifths of all FDI projects” (UNCTAD, WIR, 2009, p. 8). This phenomenon becomes more important in times of crisis, but is not limited to those times. It seems, thus, that divestments are an important side of the operations of MNEs for which evidence is scant in the specialised literature.

Divestments in advanced economies could well increase as long as the emerging and transition economies become more and more attractive for MNEs. Some signs point to the existence of such a process. In 2010, developing and transition economies have attracted half of the worldwide FDI inflows (UNCTAD, 2011). The UNCTAD itself regards this as a record figure, since they used to receive around one third of world FDI inflows (Barba Navaretti and Venables, 2004). Of course, China explains most of this trend because it is the top destiny of FDI flows. But in 2010, there were already 10 developing or transition economies among the top 20 recipients of inward FDI inflows. In contrast, developed economies have undergone divestment processes, particularly Japan and European countries (UNCTAD, 2011). What are the consequences of these processes? Is the fear of divestments justified?

In this paper, we analyse the Spanish case. Total FDI net inward flows are positive in Spain (i.e., the entry of FDI surpasses FDI divestments). However, in some sectors divestments have been bigger than the entry of FDI flows. We use a computable general equilibrium (CGE) model which allows us to follow the differential impact of divestments depending on the sector in which they occur. We also estimate the effects of all simultaneous divestments for the economy as a whole. Our CGE model is one of the few that accounts for the operations of MNEs. It is further augmented to include unemployment, a feature that to the best of our knowledge has still not been included in any of the CGEs with MNEs (see Latorre, 2009, for a review). Unemployment effects seem crucial for the analysis of divestments. We further have constructed our own social accounting matrix (SAM) for the Spanish economy in the year 2005. Thus we have worked carefully with the data for this economy. We think this task is a very helpful exercise to follow the adjustments after the shock we investigate.

The present paper is organised as follows. The next section offers some worldwide evidence on the recent trends of the operations of MNEs. Section 3 focuses in the analysis of the divestments that have taken place in Spain from 2005 onwards. Section 4, explains the CGE model with multinationals while section 5 offers the main results. The conclusions appear in the last section.

2. Worldwide evidence on the operations of MNEs

The OECD provides data on the operations of MNEs across a group of countries. An interesting comparison, which takes into account the breaks in the series, is summarised in Table 1. Note that the data refer to the activities of MNEs in all manufacturing sectors (with no information on services or the primary sector for which data are poorer). The first two columns offer the absolute numbers of employees in MNEs in 2001 and 2007. The third column gives us the percentage variation of employment between those two years. The order of the countries in the table follows this percentage variation. At the top are the countries that have experienced important increases in the number of employees. Most Eastern European countries appear there. However, there are advanced economies as well, such as Denmark and Switzerland. As most Eastern European countries the latter are small economies in which higher percentage increases in employment are more easily obtained.

If we continue looking at the third column, next comes a group of countries which experience more modest increases in the number of employees. Some advanced economies belong to this second group. Finally, at the bottom of the table we find the countries in which MNEs are reducing employment. For some of the reductions are sizeable (Ireland, The Netherlands, Norway, Italy, United States and France). One could think that these losses in employment could be due to technological process. However, advances in technology tend to be, somehow, available for different countries, when they take place within an MNE. But these data show that some countries lose employment while others increase it. It seems that other factors must be at play (e.g., cost savings) when deciding to hire or not to hire more workers in a particular country.

The next three columns in Table 1 give us the share of employment in MNEs with respect to total employment in manufacturing. This information allows us to calculate another column with the percentage variation of the number of employees in national firms between 2001 and 2007. All the countries which increase the number of employees in MNEs also experience an increase in their share of MNEs in employment. This implies that MNEs are creating employment while national firms are reducing it. Only Switzerland is creating employment in national firms. It does so, however, at a slower pace compared to the increase in employment of MNEs.

Among the countries that reduce employment in MNEs we have to different trends. On the one hand, Ireland, Norway, Italy, France and Spain, also display a decrease in the share of MNEs in total employment. MNEs are, thus, reducing employment at a faster pace than national firms which also reduce employment. On the other hand, The Netherlands, the U.S., United Kingdom, Sweden and Portugal, increase the share of MNEs in employment. Both National firms and MNEs are dismissing workers but the latter do it more intensively.

The last column offers the percentage variation of employment for all manufacturing firms (national firms and MNEs) in the period considered. We can see that a lot of employment is being destroyed in general across countries and that, for some of them, MNEs do not follow this trend but create employment. Only four out of the 24 countries considered experience a rise in total employment.

This paper looks very closely at these relationships between the operations of national firms and MNEs. We concentrate on the case of Spain, while covering the activities of MNEs in services in order to complete the picture. Let us turn now to the information about the importance of divestments in the Spanish economy.

3. Divestments in the Spanish economy

Spain has been for decades an attractive country for the activities of MNEs. It is still so. But as we have seen in the introduction, FDI projects, sooner or later, are affected by divestments.

MNEs account for an important share in production in manufacturing (around 16% of employment according to Table 1) and 7% in services (in 2005) which has risen to nearly 10% in 2009. This country experienced an important boom in FDI inflows before joining the so called in that time, European Community (Bajo-Rubio and López-Pueyo, 2002). After it became an important source of FDI outward flows, with world leading MNEs in services (Santander, BBVA, Telefonica...), utilities industries (Iberdrola, ACS...), oil (Repsol), textiles (Zara)...etc. According to the World Investment Report Spain has been in the list of ten top largest sources and recipients of FDI of the world in the last years.

The Spanish Registry of FDI (Ministry of Economy and Competitiveness) offers a unique dataset to analyse the evolution of inward (and outward) FDI. Sometimes, divestments appear in the statistics when the operations behind them are not strictly related to reductions in production or employment, such as reverse intra-company loans or repayments of debts to parents. Take the case of an affiliate in Spain that pays back a loan obtained from its parent company. This may well be a case in which the situation of the affiliate is better, so that it can now pay back its debt. However, this would appear in the statistics as a divestment, i.e., a reduction in the FDI inflows through the “other capital” component of FDI¹. But, if the situation of the affiliate is better probably it will not reduce its operations nor dismiss workers.

The series on FDI from the Spanish Registry do not consider the reinvested earnings nor the “other capital” components but just the equity capital component. This contrasts with the information from other institutions, such as the Bank of Spain, Eurostat, the OECD...etc, in which disentangling the relative importance of these components at sectoral level information is impossible.

Doing without what we could call these “financial components” (reinvested earnings and other capital) of FDI we have analysed the net FDI position across sectors in the Spanish economy. This net FDI position offers the final figure on the amount of capital controlled by foreign firms, after taking into account the simultaneous FDI investments and divestments taking place through time. While the series on FDI flows are available since 2003, the ones on the net FDI position are more reliable since 2005 (although they begin in 2003).

¹ Note that FDI consists of three different types of operations: equity capital, reinvested earnings and other capital.

Table 2 summarises our calculations of the variations in the net FDI position. First of all, it should be stressed that the net FDI position for the whole economy (labelled “Total” in that Table) increases by 35.57% in the period from 2005 and 2009 (latest year for which it is available). In the pre-crisis period (i.e., 2005-2007) the growth of the foreign capital is of 12.85%. Thus, the Spanish economy as a whole has been attracting foreign capital. However, in some sectors, the divestments prevail over the FDI inflows received. As a consequence, the net FDI position falls in them. The sizes of the decreases are important and, according to Table 2, they had appeared before the crisis (with the exception of “Textiles” and “Activities auxiliary to financial intermediation”). However, in six out of the ten sectors considered, the crisis exacerbated divestments.

Table 2 gathers all the divestments that have taken place in the Spanish economy, except for two rather small ones that occurred in the primary sector and in other manufacturing. Due to the small size of these two latter sectors, we did not expect to find important effects for the economy as a whole. Thus, our simulations will cover the effects arising from the sectors in Table 2.

In order to derive the effects of divestments we need to consider some additional information. The WIR (2009) reports that between one-fourth and one-third of all cross-border M&A consist of the disposal of foreign affiliates to other firms. The buyer may be a firm based (1) in the economy previously hosting the affiliate, (2) in the home economy or (3) in a third country. Note that case 1 results in a reduction of the FDI position in the host economy (i.e., a divestment), whereas cases 2 and 3 do not have any implication for the FDI position (i.e., there are not divestments).

According to the WIR, in most cases a firm based in the host economy buys the affiliate. Next more common case is the purchase from a firm based in a third country, and the less frequent case is a purchase from firm based in the home economy. If a national firm buys the plant of a foreign affiliate, the plant would continue its operations under a different ownership but, usually, experiencing a reduction in employment. In the other extreme, divestments may imply the closure of plants of foreign affiliates, clearly leading to more drastic outcomes. In our study, we analyse these two types of divestments across different sectors of the economy of Spain.

The Spanish Registry of FDI offers the data on the relative importance of divestments of MNEs which imply the closure of firms versus those divestments which ended up in the acquisition of the foreign affiliate by a national firm. Unfortunately, we do not have that information at the sectoral level, but only for the economy as a whole. Table 3 shows that closures account for a smaller part of divestments (20%) while national acquisitions account for the rest. In our study, we will simulate the impact of both closures and national acquisitions. This will offer us the two extreme hypothesis between which the impact of divestments must be. Although it seems that the effect will tend to be closer to the outcomes derived from national acquisitions.

4. The Model and simulations

The model is an extension of Gómez and Pascual (2011) to incorporate MNEs and FDI changes. It is a static computable general equilibrium model describing an open

economy, disaggregated in 23 productive sectors (see Appendix), one representative consumer, the public sector and a foreign sector representing the rest of the world. The extension of the model is addressed to: (1) Split each productive sector in two: one part represents the firms owned by residents, and the other part includes foreign owned firms. (2) Represent the capital uses according specific factor assumptions. (3) Define the sectors in order to follow the adjustment that will take place after the divestments. And (4) Exogenize the public sector policies to focus on effects generated by the private sector.

It must be noted that due to the high unemployment rate in the Spanish economy, instead of using the common assumption of full employment in labour market, the model includes unemployment in a way derived from trade unions models. Next we present a brief description of the model. The full set of equations can be requested to authors.

4. 1. Equilibrium conditions

The equilibrium of the model is a set of prices and an allocation of goods and factors. It involves the simultaneous solutions of three sets of equations:

- Zero-profit conditions.
- Market clearing in goods and capital markets.
- Constraints on disposable income (total revenue must equal total expenditure), labour market (includes unemployment) and macroeconomic closure of the model.

4. 2. Production

Production is based on a technology characterized by a nested structure of intermediate inputs, capital and labour. Firms maximise profits (or, alternatively minimise costs, in the dual approach) subject to the technology constraints, obtaining the unit cost functions, which are further used in the zero-profit conditions. In turn, the demand for factors and intermediate inputs are obtained from Shepard's lemma on cost functions, and then used in the market-clearing equations.

Firms show constant returns to scale in their technologies and fixed a competitive pricing rule, with free entry and exit of firms. However, note that within each sector there are two different varieties of the same good (i.e., a national variety produced by national firms and a foreign one produced by MNEs). The price of the two different varieties will differ. This is because the costs of producing them vary between national firms and MNEs of the same sector, according to the information provided by Eurostat (2012). Thus, we abandon the usual assumption of equal costs of production for national firms and MNEs across sectors, which is present in most of the CGEs including MNEs (see Latorre, 2009 or Latorre, 2010, chapter 2, for a review of previous CGE models with MNEs). This symmetry in costs arises because only the percentage of capital owned by MNEs is used to split the sectors into a national firms' part and another MNEs' part. Thus, the input mix is the same between both types of firms within the same sector. Whereas in our model, we split sectors in two parts using Eurostat's information on the shares of production, labour and capital that MNEs and national firms own. As a result, the structure of costs differs between national firms and MNEs

in each sector. This is much in the spirit of our previous CGE model with MNEs (Latorre et al, 2009), although we now have expanded that model to incorporate unemployment.

4. 3. Consumption

There is a representative consumer household behaving as a rational consumer. The level of consumer's welfare is determined by the endowments of capital and labour jointly with exogenous net transfers paid by the public sector. The fixed endowment of labour should be interpreted as a maximum supply of labour since leisure and unemployment are assumed to be endogenous. Hence, labour supply would be elastic up to the endowment constraint.

The household's decisions problem consists of choosing an optimal consumption bundle, by maximizing a nested utility function subject to the budget constraint. Preferences are represented by a nested utility function on (consumption of) goods, leisure and savings. Notice that, given our static approach, we consider a unit elasticity of substitution between savings and (consumption of) goods (Howe, 1975), so that savings can be interpreted as the purchase of bonds for future consumption.

The budget constraint includes total factor rents jointly with exogenous net transfers paid by the public sector. Demand functions for goods, leisure and savings are derived from the first-order conditions, and are included in the goods and factor markets, as well as in the macroeconomic closure for savings.

4. 4. Public sector

The role of the public sector in the model is twofold, i.e., owner of resources (e.g. from capital endowment and tax revenue), and purchaser of certain goods. As a resources owner, its wealth includes income from capital rents, net transfers paid to the representative household, and tax revenues. Taxes consist of social contributions paid by employers and employees, value added taxes, other net indirect taxes, and income taxes. All taxes are modelled as effective *ad valorem* rates calibrated from benchmark data, except for income taxes that are taken as an exogenous fixed amount. In order to isolate any bias from the public sector on results, *ad valorem* indirect tax rates are allowed to change endogenously under the equal yield assumption.

Capital rents for the public sector, by definition (see ESA, 1995), includes the fixed capital consumption because net operating surplus is zero for the public sector. The fixed capital consumption has been assigned to two sectors: Public services and Other services. All the capital in Public services is owned by the public sector, whereas in Other services a share is publicly owned and other share is private.

The public sector also enters the model as a purchaser. The public sector expenditure includes both market (i.e., output that is disposed of in the market at economically significant prices) and non-market goods (i.e., output that is provided at prices that are not economically significant).

4. 5. Foreign sector

The model incorporates the small open economy assumption. It means that the country faces a perfectly elastic export supply function. There is also a constant elasticity of transformation function between domestic and foreign sales. Regarding imports, we assume that goods are differentiated according to their origin (i.e., domestic or foreign), following Armington's assumption (Armington, 1969), which allows for the possibility of intra-industry trade despite the assumption of exogenous world prices.

The foreign sector is closed by assuming that the difference between receipts and payments from the rest of the world is exogenous. This restriction would avoid, e.g., a permanent increase in exports with no change in imports, an unlikely scenario since it would involve an unlimited capital outflow to the country.

4. 6. Factor markets

Two factors enter into the model: capital and labour. With respect to capital, both the representative household and the public sector own fixed endowments. The capital rents adjust to clear the domestic capital market, under the assumptions of capital international immobility (except for the divestments ~~capital outflows~~, which have been modelled as exogenously driven), and no mobility across domestic sectors. Hence the capital is specific in two levels: (1) Each sector employs a type of capital, and (2) capital is differentiated in relation to the owner (i.e., public, private national and foreign).

The only owner of labour is the representative household. The demand for leisure is derived from the household's problem. Hence, labour supply (i.e., the labour endowment less the demand for leisure) would be elastic up to the fixed amount of labour. Labour is assumed to be international immobile, but mobile within the country.

We assume that labour owners (i.e., workers) have some market power and their wages requests are related to unemployment level in the economy. For that reason the model includes the following constraint:

$$w = \left(\frac{1-u}{1-\bar{u}} \right)^{\frac{1}{\beta}}$$

where w represents real wages, u is the unemployment rate, $\bar{u}$ is the unemployment rate in the benchmark, and β is a parameter that measures the real wage flexibility with respect to the unemployment rate. Hence, when β approaches infinity, the real wage approaches its benchmark value (which is 1 according to the calibration process explained below). This is the case for rigid real wages when those wages do not change when unemployment does. If β approaches zero, the unemployment rate approaches the benchmark unemployment rate, with real wages being flexible. Other intermediate values for β show different flexibility levels of real wages to the unemployment rate.

4. 7. Macroeconomic closure

Total investment is split into sectoral gross capital formation using a fixed-coefficients Leontief structure (Dervis *et al.*, 1981). Notice that, in our static framework, total gross capital formation shows its influence on the economy as a component of final demand. The model embodies a macroeconomic closure equation stating that investment and savings (private, public and foreign) are equal.

Finally, the model is solved as explained in Rutherford (1999), with the general equilibrium model is defined as a mixed complementarity problem (see Mathiesen, 1985). The software employed is GAMS/MPSGE.

4. 8. Calibration

The model has been calibrated with Spanish data. The calibration method ~~departs from~~ is based on a benchmark equilibrium corresponding to the National Accounts and a set of exogenous parameters. A detailed explanation for the calibration method can be found in Mansur and Whalley (1984) and Dawkins *et al.* (2001).

On the one hand, to build the Social Accounting Matrix (SAM) we ~~depart from~~ transform and expand the last Input-Output symmetric table disposable for the Spanish economy (year 2005). In order to do so we further use the institutional sectors accounts from the Spanish Instituto Nacional de Estadística (INE). Public revenue data has been disaggregated for indirect taxation, as social security contributions.

On the other hand, elasticities play a key role in the model and a sensitivity analysis is mandatory. The benchmark value for those elasticities are:

- Elasticities of substitution in the welfare function:
 - between consumption and savings (σ_{CA}): 1
 - between final consumption and leisure (σ_{CO}): 1
 - among final consumption goods (σ_{BC}): 1
- Elasticities related to production:
 - between intermediate inputs and value added composite (σ_I): 0
 - between labour and capital (σ_{LK}): values fluctuate between 0.20 and 1.68
 - between domestic and foreign goods (Armington elasticities): values fluctuate between 1.25 and 4.05
 - between goods sold in the domestic market and abroad (elasticities of transformation): values fluctuate between 0.70 and 3.90

The literature sources for the elasticities are Narayanan and Walmsley (2008) for σ_{LK} and σ_A ; the elasticities of transformation from De Melo and Tarr (1992); and σ_{CO} is consistent with the survey by Ballard and Kang (2003). The remaining values are common in the literature.

4. 9. Simulations

Two types of simulations are run. On the one hand, we look at the impact of divestments which imply the closure of the foreign firm (“Closure” hypothesis). The closure (total and partial) is represented as a decrease in capital stock owned by

foreigners in Spain.

On the other hand, we simulate the effects of the acquisition of the foreign plant by national firms (“National acquisition” hypothesis). The sales to national firms involve the change in property and the capital moves from foreign to national firms. As explained in section 3, national acquisitions are more common and account for approximately 80% of the divestments. However, we do not know what the distribution of closures and national acquisitions is at the sectoral level. Therefore, we will simulate the two extreme scenarios to know the range in which results should be. The values of divestments analysed are the ones for the period 2005-2009 (see Table 2).

We analyse the impact of these two types of simulations in each of the ten sectors from Table 2, which are the sectors in which the most sizeable divestments take place. We, thus, run the two scenarios in all sectors, one by one. This will offer an insight regarding the differential impact of divestments across sectors. We also run a shock that we label “all divestments”. With this latter simulation we estimate the joint impact of the simultaneous divestments in all of the ten sectors. We run it under the “closure” scenario as well as under the “national acquisition” scenario. Therefore, we, again, obtain the two extreme hypothesis between which the impact of all divestments should be. Thus, this shock gathers *all* the divestments *really* experienced in Spain between 2005 and 2009. It estimates a range of values of the “overall” impact of divestments.

For the “national acquisition” scenario one question arises. How did Spanish firms finance the purchase of the foreign affiliates? To the best of our knowledge, there is not exact information on this issue. We know, however, that since 2003 most Spanish MNEs that acquired other firms abroad did it through loans (Banco de España, 2011). In those years credit was easily available at very convenient conditions (i.e., very low interest rates). The Spanish National Institute (INE, 2012) reports that since 2003 non financial firms became increasingly indebted till 2007, while the pace of indebtedness was reduced but still present in 2008-9. Further, the Bank of Spain (2006) and the ECB (2006) confirm that for that period much of the demand for credit was related to mergers, acquisitions and firms’ restructuring. It seems reasonable, therefore, to assume that national firms were given loans in order to purchase the foreign affiliates located in Spain.

5. Results

5.1. The impact of the simultaneous divestments in all sector.

Recall that in the “all divestments” scenario all the reductions in the net FDI position across the ten sectors appearing in Table 2 are simultaneously simulated. Figure 1 summarises the main findings for our two extreme hypothesis. The hypothesis “closures” appears in blue, while the “national acquisition” appears in red. Due to the static character of our model, the results should be viewed as the short-medium run outcomes.

We look first at the “closure” hypothesis. In this case, foreign capital leaves the country for good and workers in foreign affiliates are dismissed. Around 1.5% of the total

employment in the economy is destroyed. The unemployment rate rises by 11% (i.e., from its level in 2005, 9.16%, to 10.16%). Since labour becomes more abundant the real wage in the economy (the same for all workers due to the assumption of full mobility of labour) goes down. Even though some capital leaves the country, labour is in relative terms more abundant (due to 10.16% of unemployment) and therefore, the fall in the remuneration of capital is smaller than that of the wage. Thus, capital becomes more expensive in relative terms.

The loss in factors of production and their lower remunerations result in a decrease of both GDP and welfare (measured as Hicksian equivalent variation) of -1.4% and -1.70%, respectively. Since the level of activity diminishes due to the closure of plants foreign trade diminishes as well.

Next we analyse the impact if all the former foreign plants end up in the hands of national firms (“national acquisition”). Under this hypothesis, the unemployment rate will decrease by -3.55% (turning from 9.16% to 8.83%). Total employment in the economy rises by 1%. Capital is now used in national firms, whose technology are slightly more labour intensive than the ones in the MNEs. However, the positive effects for employment in the economy do not push GDP up, instead it remains nearly at the same level (-0.03%). This is related to factor prices’ effects. The real rental rate of capital goes down by -1.55%. For the capital that is being released in MNEs to become employed by national firms its remuneration has to go down. This effect, somehow, grasps that mergers and acquisitions are often not profitable, or that it takes time for them to be profitable. This fall in the remuneration of capital prevails over the increase in employment and the small rise in wages (0.24%), so that GDP remains more or less unchanged.

Welfare decreases under this “national acquisition” hypothesis, because the representative household earns the remuneration of capital. Therefore, the pronounced fall in the rental rate of capital is harmful for the consumer. Foreign trade diminishes when more activities are undertaken by national firms, compared to the case in which MNEs were producing. Logically, the fall in trade is smaller than in the case of closures.

5.2. Sectoral differences in the impact of divestments

We analyse the effects of divestments for each sector in turn. Recall that the sectors are the ones from Table 2. The results of these simulations appear in Tables 4 and 5. The first one deals with the “closure”.

5.2.1. Sectoral closures

Our sectoral analysis allows us to study whether all sectors follow the trend described earlier in the “all divestments” simulation. Note that the last row in Table 4 offers the same results of Figure 1, thus, it repeats those outcomes for the sake of comparison. Further, the present analysis helps us to identify the different magnitudes of the outcomes of the shock according to the sector in which they take place. The variables are the same we considered in the previous section.

The biggest reductions in employment take place after the closure of plants in “Motor vehicles, trailers and semi-trailers” (Motor vehicles, henceforth) and in “Telecommunications”, with reductions of -0,46% and -0,36% in total employment in the economy, respectively. The biggest increases in the unemployment rate take place after the shock in these two sectors. However, the fall in the rental rate of capital is bigger for Telecommunications than for Motor vehicles. This implies that the fall in GDP and welfare are the biggest after the closures in Telecommunications. Next more harmful effects arise after closures in Motor vehicles. The fall in foreign trade is biggest after the shock in this latter sector.

Although differing in magnitudes, all sectors follow the trend we had described earlier when analysing the closure hypothesis in “all divesments”. Only “Activities auxiliary to financial intermediation” have different outcomes for employment, unemployment and wages. This is related to the fact that the amount of labour affects in the shock in this sector is much smaller than the one affected after the shock in the rest of sectors. It makes sense that it becomes easier to reallocate a smaller quantity of labour throughout the economy.

In general, the differences in the magnitude of the impact of closures across sectors are related to the amount of capital involved in the shock. This is a combination of the weight of MNEs in the capital stock of the sector, as well as, how labour intensive they are, together with the magnitude of the decrease in the net FDI position.

5.2.2. National acquisitions across sectors

As shown in Table 5, when national acquisitions take place Telecommunications is still the sector in which the harmful effects for GDP are the biggest. We indeed still get a fall in GDP, although smaller than in the case of closures (now it is -0.27% versus the previous -0.41%). In fact, national acquisitions in several sectors result in GDP decreases. After Telecommunications next biggest falls arise for “Other business activities” and Motor vehicles. In most cases, the national acquisitions increase employment and wages and reduce unemployment. This trend should be familiar, since we observe it in the “all divesments” (“national acquisitions”, hypothesis), which again appears in the last row of Table 5. However it is the fall in the real rental rate of capital which brings about the bad results in GDP. Note that with the national acquisitions the remuneration of capital falls by more than in the case of closures (as reported in Table 4). This is crucial for the results in welfare and GDP.

For manufacturing sectors the higher level of activities in national firms implies that the fall in foreign trade is smaller than in the case of closures. However, for services when more activities are undertaken in national firms the fall in foreign trade is bigger than for the case of closures. More activities in national firms in services contracts foreign trade.

National acquisitions in Motor vehicles exhibit a somewhat “contrasting” pattern because it is a quite big sector in which the MNEs are relatively labour intensive (while they tend to be more capital intensive). The same phenomenon (MNEs being even more

labour intensive than in Motor vehicles) takes place in “Other Business”. However, this latter sector accounts for an important part of consumption and, thus, follows simultaneously the demand side of the economy. Costs are not so important for the evolution of this sector.

The evolution of costs is also important for the evolution in “Sale and repair of motor vehicles” and, to a lesser extent “Renting of machinery and equipment”. MNEs in the former sector are very, very capital intensive. When capital leaves that part of the sector it enters into the national part of it and generates a boom in employment in that national part, which comes together with a decrease in unemployment. “Sale and repair of motor vehicles” is the only sector in which national acquisitions bring about a GDP increase.

This sectoral differences in the impact of “national acquisitions” imply that cost structures are important to explain the outcomes. Figure 2, shows the contrasting labour intensities between national firms and MNEs within and across the ten sectors analysed.

Conclusions

As other advanced economies, Spain has experienced a reduction in the number of employees in manufacturing MNEs. The arrival of FDI inflows clearly prevails over divestments (i.e., reductions in the net FDI inward position) in the period 2005-2009. However, in some particular sectors, MNEs’ divestments have surpassed their investments.

In this paper, we identify the magnitude of divestments trying to isolate those that imply a reduction in production and employment in MNEs. We find these to be sizeable in ten Spanish sectors. In order to analyse the effects of these divestments we use one of the few CGEs which considers the presence of MNEs. Further, our model is unique insofar as it includes MNEs together with unemployment. Thus, we estimate the impact of divestments for total employment, real wages, capital remunerations, the rate of unemployment, foreign trade, GDP and welfare.

Fortunately for the Spanish economy, foreign divestments not always resulted in the closure of plants but in the acquisition of foreign plants by national firms. The World Investment Report reports that this predominance of national acquisitions is a general trend across countries. We pay close attention to this matter by estimating two different hypothesis (“closure” versus “national acquisitions” hypothesis).

Taking into account all simultaneous divestments in the ten sectors where they have concentrated we obtain the following main outcomes for the short-medium run. For “closures” the unemployment rate would increase from 9,16% (its 2005 level) to 10.16% and GDP would decrease by -1.45%. In the case of “national acquisitions”, the unemployment rate would be reduced from 9.16% to 8.83%, but GDP would remain approximately at its initial level.

We also analyse the differential impact of divestments according to the sector in which they have taken place. In the “closure” case divestments in “Telecommunications” and “Motor vehicles” would bring about the most substantial increases in the unemployment

rate and in GDP reductions. For “national acquisitions” the greatest reductions in unemployment would stem from “Sale and repair of motor vehicles”, “Renting of machinery and equipment” “Activities auxiliary to financial intermediation” and “Air and water transport”. Regarding GDP outcomes (in the “national acquisitions” case) only “Sale and repair of motor vehicles” yields an increase in GDP, while for the rest of ten sectors GDP would be slightly reduced.

The contrasting costs structures of national firms and MNEs within and across sectors explain the differential impact of divestments. Divestments seem to have an important impact for the Spanish economy and we now have some quantitative estimations which could be helpful for the policy maker.

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Table 1. The weight of MNEs in employment in all manufacturing sectors (2001-7)

	<i>No employees in MNEs</i>			<i>Share of MNEs in Manufacturing</i>			<i>% difference No. Employees 2001-7</i>	
	2001	2007	% 2001-7	2001	2007	DIF 2001-7	National firms	Total economy
Sizeable Increases								
Poland	386003	658021	70,5	21,9	32,5	10,6	-0,72	14,87
Czech Republic	362423	564543	55,8	28,9	45,5	16,6	-24,16	-1,06
Denmark	65800	83006	26,1	14,1	22,6	8,5	-29,08	-21,30
Slovak Republic*	143482	180019	25,5	34,9	43,8	8,9	-13,70	-0,03
Hungary*	230402	287296	24,7	27,1	36,9	9,8	-20,73	-8,42
Switzerland*	119025	145345	22,1	11,6	13,6	2	1,80	4,15
Estonia*	41078	49333	20,1	38,4	45	6,6	-8,50	2,48
Slovenia*	37129	42977	15,8	15,9	18,7	2,8	-4,86	-1,58
Austria*	n.a.	179141	n.a.	24	29,1	5,1		
Small increases								
Germany*	1086000	1144000	5,3	14,8	16,5	1,7	-7,40	-5,51
Luxembourg*	13800	14400	4,3	41,7	44,3	2,6	-6,16	-1,78
Israel	44412	46402	4,5	n.a.	n.a.	1,6		4,48
Belgium*	n.a.	n.a.	n.a.	32,3	34,8	2,5		
Finland	73450	74169	1,0	17,2	19,2	2	-11,72	-9,54
Decreases								
Ireland	123186	102439	-16,8	49,2	46	-3,2	-5,45	-11,06
Netherlands*	210116	176445	-16,0	21	24,3	3,3	-30,46	-27,43
Norway	70388	60944	-13,4	24,3	22,4	-1,9	-3,72	-6,07
Italy	520749	456987	-12,2	10,8	10,1	-0,7	-5,43	-6,16
United States*	2330200	2050700	-12,0	11,1	11,3	0,2	-13,75	-13,55
France*	1043400	938151	-10,1	26,4	26,1	-0,3	-8,68	-9,05
Spain	408579	386041	-5,5	16,4	16,1	-0,3	-3,41	-3,76
United Kingdom	906237	859110	-5,2	24	30,4	6,4	-31,46	-25,16
Sweden	232579	221744	-4,7	32,7	33,4	0,7	-7,63	-6,66
Portugal*	108366	108046	-0,3	12,8	13,3	0,5	-4,59	-4,04

Source: OECD (2012)

Table 2. Changes in the Net FDI position across sectors and for the total foreign capital stock in Spain

	2005-7%	2005-9%
Beverages & Tobacco	-61,46	-36,46
Textiles	27,25	-28,39
Fabricated metal products	-5,62	-4,90
Motor vehicles, trailers & semi-trailers	-4,86	-22,51
Sale & repair of motor vehicles	-14,99	-25,87
Air and water transport	-15,36	-32,65
Telecommunications	-18,98	-36,11
Activities auxiliary to financial intermediation	0,95	-3,49
Renting of machinery & equipment	-34,37	-48,97
Other business activities	-22,21	-17,40
TOTAL foreign capital Stock	12,85	35,57

Source: The Spanish Registry of FDI (Ministry of Economy and Competitiveness, 2012)

Table 3. Relative importance of closures and national acquisitions in divestments in Spain

	2005	2006	2007	2008	2009	2010	2011	Average
Percentages								
Closures	27,4	9,8	10,1	20,6	35,0	31,2	7,9	20,3
Total closure	5,5	1,0	5,7	8,0	5,5	7,1	3,6	5,2
Partial closure	21,9	8,8	4,4	12,6	29,5	24,1	4,3	15,1
National acquisitions	72,6	90,2	89,9	79,4	65,0	68,8	92,1	79,7
Total	100	100	100	100	100	100	100	100,0
Millions of euros								
Closures	1790	990	1031	776	738	896	131	907
Total closure	358	105	585	301	116	204	60	247
Partial closure	1432	885	446	475	622	692	71	660
National acquisitions	4753	9095	9183	2989	1368	1980	1520	4413
Total	6543	10085	10214	3765	2106	2876	1651	5320

Source: The Spanish Registry of FDI (Ministry of Economy and Competitiveness, 2012)

Table 4: Simulations results: effects of “closures” across sectors

	Employment	Unemployment	Wage	Rental rate of capital	GDP	Welfare	Imports	Exports
Beverages & Tobacco	-0,17	1,22	-0,08	-0,06	-0,12	-0,18	-0,20	-0,20
Textiles	-0,02	0,14	-0,01	0,00	-0,02	-0,02	-0,01	-0,01
Fabricated metal products	0,00	0,02	0,00	0,00	0,00	-0,01	0,00	0,00
Motor vehicles, trailers & semi-trailers	-0,46	2,96	-0,20	0,14	-0,35	-0,42	-1,96	-1,96
Sale & repair of motor vehicles	-0,16	1,41	-0,09	-0,07	-0,23	-0,25	-0,45	-0,45
Air and water transport	-0,01	0,22	-0,01	-0,06	-0,05	-0,11	-0,10	-0,10
Telecommunications	-0,36	2,85	-0,19	-0,12	-0,41	-0,43	-0,51	-0,51
Activities auxiliary to financial intermediation	0,06	-0,17	0,01	-0,12	-0,02	-0,15	-0,14	-0,14
Renting of machinery & equipment	-0,13	1,34	-0,09	-0,13	-0,23	-0,39	-0,25	-0,25
Other business activities	-0,11	0,94	-0,06	-0,08	-0,14	-0,34	-0,19	-0,19
All Divestments (closures)	-1,49	11,00	-0,74	-0,13	-1,45	-1,70	-3,16	-3,16

Table 5: Simulations results: effects of “national acquisitions” across sectors

	Employment	Unemployment	Wage	Rental rate of capital	GDP	Welfare	imports	exports
Beverages & Tobacco	0,00	0,11	-0,01	-0,05	-0,02	-0,03	0,00	0,00
Textiles	0,00	0,02	0,00	-0,01	-0,01	-0,01	-0,01	-0,01
Fabricated metal products	0,01	-0,02	0,00	-0,01	0,00	-0,01	-0,01	-0,01
Motor vehicles, trailers & semi-trailers	-0,21	1,48	-0,10	-0,08	-0,19	-0,25	-1,25	-1,25
Sale & repair of motor vehicles	1,04	-4,78	0,32	-1,04	0,26	-0,86	-0,35	-0,35
Air and water transport	0,54	-1,61	0,11	-0,99	-0,11	-1,22	-1,08	-1,08
Telecommunications	0,38	-0,46	0,03	-1,06	-0,27	-1,37	-1,28	-1,28
Activities auxiliary to financial intermediation	0,61	-1,94	0,13	-1,05	-0,09	-1,28	-1,13	-1,13
Renting of machinery & equipment	0,71	-2,39	0,16	-1,18	-0,07	-1,27	-1,12	-1,12
Other business activities	0,39	-0,58	0,04	-1,02	-0,23	-1,48	-1,20	-1,20
All divestments (national acquisitions)	1,00	-3,55	0,24	-1,55	-0,03	-1,40	-1,64	-1,64

Figure 1. Simulations results: effects of all divestments

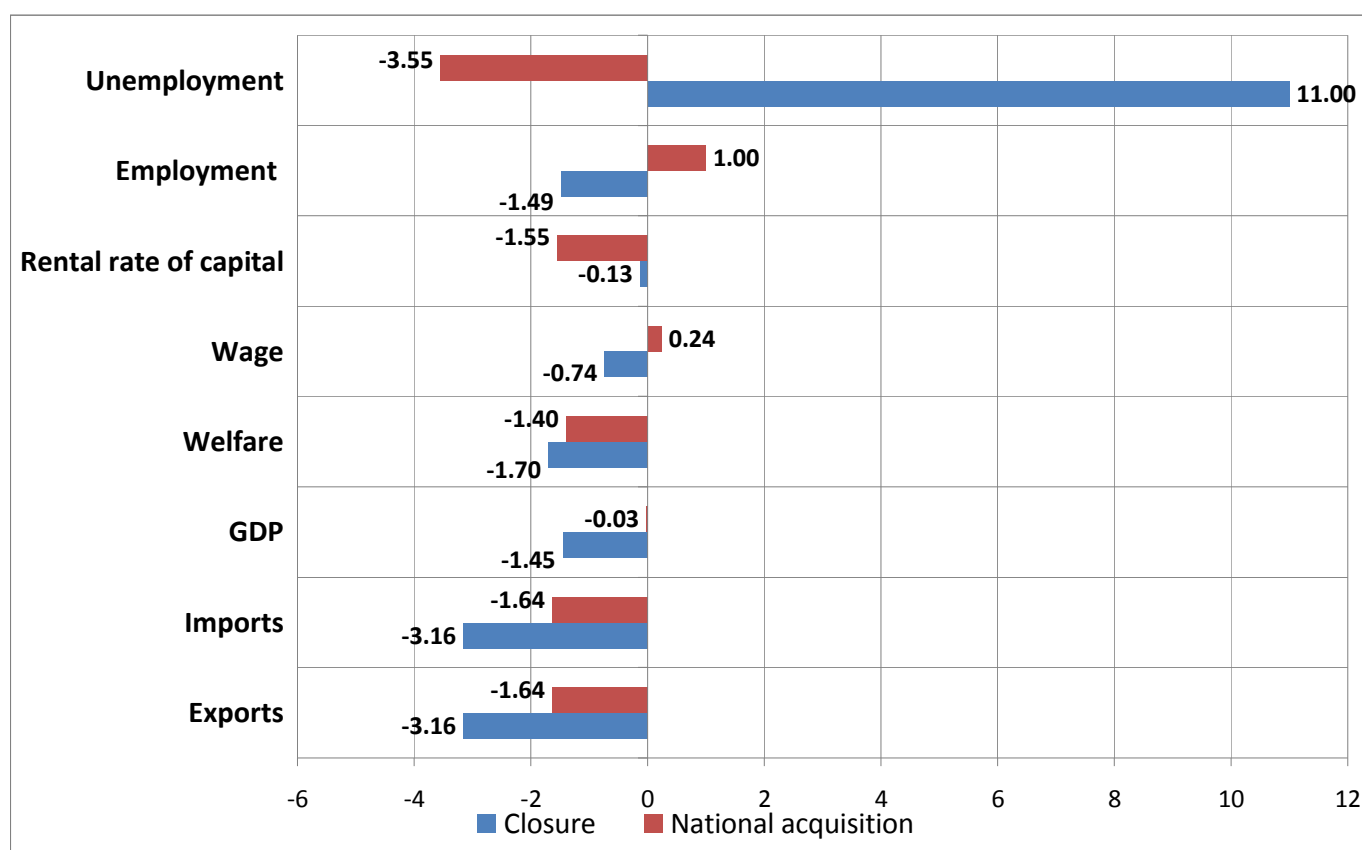


Figure 2. Labour intensity (L/K ratio) across the ten sectors with divestments

