**ONLINE APPENDIX**

**APPENDIX A.1**

**GRAPH A.1.**

Expropriation ratios in each municipality in 1933 in relation with the total size of farms included in the Registry of Expropriable Property.



Note: This graph shows how abnormally high ratios of intensification (area expropriated and intensified/ area expropriable) belong to a subset of small municipalities with very small areas included in the Registry of Expropriable Property. We expect a ratio below 100, as the Registry of Expropriable Property is a registry of farms *affected* by land reform, not a registry of the expropriated parts of affected farms.

The graph excludes the most extreme observations for the sake of legibility.

Source: BIRA, 16: 40-70; Riesco, 2005, pp. 478-9.

**APPENDIX A. 2. Summary statistics**

In table A.2.1, we provide the summary statistics of the main right- and left-hand side variables, as well as the correlation coefficients, in each of the provinces. For Cáceres, we have put together the two types of settlements to save some space. In Badajoz, one third of municipalities reported settlements and about 42 per cent in Cáceres. Union presence in 1931 was somewhat more extended in Cáceres, with 23 per cent of municipalities reporting a peasant union, compared to 13 per cent in Badajoz. However, invasions, petty theft and violence were higher in Badajoz. A third of municipalities reported invasions, 40 per cent had cases of petty theft reported and there were violent clashes in 12 per cent of municipalities. The figures for Cáceres are lower, except for violent events. In both cases, around 10 per cent of municipalities had expropriations of *Grandeza* land up to September 1934. Carrión (1975 [1932]) did not report cadastral information in 23 per cent of municipalities in Badajoz and in almost sixty per cent of Cáceres municipalities.

**TABLE A.2.1.**

**Selected summary statistics and correlations.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Badajoz**  **N=164** | **Mean** | **Std**  **error** | **Plan**  **[0,1]** | **U** | **Inv,**  **pre** | **Theft,**  **pre** | **V,**  **pre** | **U** | **I** | **Th** | **V** | **Grand**  **March** | **Grand**  **Aug** | **Log**  **Pop** | **Area** |
| **Plan [0,1]** | .34 | .34 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Union, pre** | .13 | .34 | .2 |  |  |  |  |  |  |  |  |  |  |  |  |
| **Inv, pre** | .3 | .74 | .28 | -.04 |  |  |  |  |  |  |  |  |  |  |  |
| **Theft, pre** | .41 | 1.22 | .14 | .01 | .12 |  |  |  |  |  |  |  |  |  |  |
| **Violence, pre** | .12 | .41 | .18 | .06 | -.02 | .13 |  |  |  |  |  |  |  |  |  |
| **local Unions** | .71 | .97 | .16 | .05 | -.04 | .14 | .1 |  |  |  |  |  |  |  |  |
| **I, reform** | .57 | 1.39 | .17 | .13 | .02 | .12 | -.01 | .15 |  |  |  |  |  |  |  |
| **Theft, reform** | .45 | .8 | .16 | .07 | .02 | .44 | .27 | .23 | .24 |  |  |  |  |  |  |
| **Violence, reform** | .05 | .25 | -.003 | .14 | .01 | .08 | .06 | -.01 | .1 | .12 |  |  |  |  |  |
| **Gran, March[0,1]** | .07 | .26 | .19 | .16 | -.02 | .35 | .09 | .16 | .16 | .4 | -.06 |  |  |  |  |
| **Gran, August [0,1]** | .02 | .16 | .05 | .05 | .04 | .04 | -.05 | -.08 | .11 | .16 | .12 |  |  |  |  |
| **Log pop 1930** | 7.94 | .94 | .21 | .23 | .27 | .36 | .25 | .2 | .21 | .46 | .16 | .28 | .21 |  |  |
| **Head district [0,1]** | .09 | .29 | .08 | .06 | .13 | .34 | .30 | .12 | .38 | .35 | .28 | .23 | .22 | .48 | .56 |
| **Registry Area** | 4917 | 11859.2 | .17 | .06 | .1 | .72 | .08 | .16 | .19 | .5 | .04 | .43 | .07 | .5 |  |
| **No Cadastre [0,1]** | .23 | .42 | -.17 | -.12 | .002 | -.08 | -.10 | -.1 | -.15 | -.18 | -.06 | -.10 | .01 | -.25 | -.19 |
| **Cáceres**  **N=219** | **Mean** | **Std**  **error** | **Plan**  **[0,1]** | **U** | **Inv,**  **pre** | **Thef,**  **pre** | **V,**  **pre** | **U** | **I** | **Th** | **V** | **Grand**  **March** | **Grand**  **Aug** | **Log**  **Pop** | **Area** |
| **Plan [0,1]** | .42 | .5 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Union, pre** | .23 | .42 | .11 |  |  |  |  |  |  |  |  |  |  |  |  |
| **Inv, pre** | .04 | .2 | .22 | .16 |  |  |  |  |  |  |  |  |  |  |  |
| **Theft, pre** | .1 | .36 | .19 | .31 | .01 |  |  |  |  |  |  |  |  |  |  |
| **Violence, pre** | .17 | .46 | .14 | .27 | .37 | .11 |  |  |  |  |  |  |  |  |  |
| **Local unions** | .63 | .92 | .22 | .16 | .01 | .14 | .19 |  |  |  |  |  |  |  |  |
| **Invasions, reform** | .85 | 1.39 | .2 | .25 | .11 | .17 | .22 | .31 |  |  |  |  |  |  |  |
| **Theft, reform** | .05 | .27 | .2 | -.02 | .11 | .04 | .24 | .1 | .12 |  |  |  |  |  |  |
| **Violence, reform** | .19 | .45 | .13 | .03 | .07 | .04 | .08 | .14 | .18 | .19 |  |  |  |  |  |
| **Gran, March[0,1]** | .04 | .19 | .01 | .15 | .22 | .18 | .21 | .04 | .23 | .13 | -.02 |  |  |  |  |
| **Gran, August [0,1]** | .07 | .25 | .29 | .02 | .22 | .09 | .06 | .26 | -.04 | .06 | .05 | -.05 |  |  |  |
| **Log pop 1930** | 7.21 | .87 | .26 | .21 | .09 | .26 | .31 | .35 | .4 | .16 | .29 | .18 | .1 |  |  |
| **Head district [0,1]** | .06 | .24 | .12 | .15 | .25 | .11 | .26 | .09 | .21 | -.04 | .09 | .18 | .1 | .4 | .4 |
| **Registry Area** | 4052 | 12521.1 | .24 | .21 | .12 | .45 | .19 | .1 | .28 | -.002 | .004 | .38 | .13 | .41 |  |
| **No Cadastre [0,1]** | .56 | .5 | -.44 | -.16 | -.19 | -.12 | -.15 | -.14 | -.08 | -.19 | -.21 | -.10 | -.20 | -.03 | -.12 |

Note: This table presents the summary statistics and correlations among the main variables used in the analysis. Plan [0, 1] represents the binary variable taking value 1 if the municipality had intensification plans and 0 otherwise.'Union, pre' is a dummy variable taking value 1 if a peasant union was reported in the municipality in 1931 and 0 otherwise. 'Inv, pre' is the count of invasions in the municipality before the 3rd November 1932. 'Theft, pre' is the count of reported cases of petty theft before November 1932. 'Violence, pre' and 'V' is the number of violent clashes reported between local peasants and authorities. 'Gran, March' is a dummy variable taking value 1 if the IRA reported expropriations of farms owned by Grandeza until the 31st March 1934 and 0 otherwise. 'Gran, Aug' is a dummy variable taking value 1 if the IRA reported expropriations of farms owned by Grandeza until the 1st September 1934 and 0 otherwise. 'Log Pop 1930' is the natural log of the population. 'Head district' is a dummy variable taking value 1 if the municipality is the head municipality in the judicial district. 'Registry Area' is the total area in hectares included in the Registry of Expropriable Property, i.e. total area of farms affected by land reform. 'No Cadastre' is a dummy variable taking value 1 if the municipality had not yet been included in the Cadastre.

Sources: see text.

Partial correlations in both Badajoz and Cáceres are relatively high between population and the existence of a plan. There are also positive coefficients between total area of farms included in the Registry of Property and settlement plans. Population and Area are also highly correlated in both provinces (correlation coefficients of .48 and .41). Settlements are positively correlated with all expressions of collective action, union in 1931, invasions, petty theft, and violence. They are also correlated in the case of contemporaneous union presence, invasions, petty theft and violence (contemporaneous to the deployment of the intensification decree). These dimensions are positively correlated in the case of Cáceres, but not so in Badajoz both in the case of collective action before and during intensification.

Union presence, invasions and theft before and during intensification have positive correlations with population and area included in the Registry of Expropriable Farms in both provinces. Petty theft before intensification is very strongly positively correlated with Registry Area in both provinces. In Badajoz there is also a strong positive correlation during intensification. Union presence has weak correlation with *Grandeza* presence in Badajoz, the same as the three dimensions of peasant conflict -invasions, theft and violence. In the case of Cáceres, there are positive correlations between Grandeza status and invasions.

Finally, the lack of Cadastre ('No Cadastre') also gets some strong, negative correlations with some of the variables. It has a strong, negative correlation with settlements, most especially in the province of Cáceres. It has also negative correlations with union presence in both provinces and with most of the other collective action measurements, especially in the province of Cáceres. There are negative correlations with *Grandeza* presence and also with population, especially in Badajoz.

**APPENDIX A.3. Extra regressions Cáceres**

We display in table A3.1 versions of equation [1] for all settlement plans in column [1], only for IRA approved plans in columns [2] and [3] and for Peña Novo-sanctioned plans in column [4] and [5].

**TABLE A3.1**.

**Determinants of settlements in 1933 (extensive margin), Cáceres province.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **All**  **[1]** | **IRA**  **[2]** | **IRA**  **[3]** | **Peña Novo**  **[4]** | **Peña Novo**  **[5]** |
| Union in 1931 |  |  |  |  |  |
| Invasions,  before reform |  |  |  |  |  |
| Petty theft,  before reform |  |  |  |  |  |
| Violence,  before reform |  |  |  |  |  |
| Union,  reform period | .06  (.03) |  | .02  (.03) |  | .02  (.04) |
| Invasions,  before reform | .02  (.03) |  | .02  (.02) |  | .03  (.03) |
| Petty theft,  reform period | .32\*\*  (.08) |  | -.19\*  (.06) |  | .46\*\*  (.08) |
| Violence,  reform period | -.02  (.07) |  | -.03  (.05) |  | .005  (.07) |
| log\_pop1930 | .02  (.04) | -.04  (.02) | -.04  (.03) | .07  (.04) | .04  (.04) |
| Head district | .05  (.11) | -.12  (.05) | -.13  (.06) | .007  (.14) | .04  (.13) |
| Area\_expropriable  Non grandeza | 5.7  (2.8) | 8.3\*\*  (2) | 7.4\*\*  (2.3) | .00002\*  (8.8) | .00002\*  (9.2) |
| Area expropriable  Grandeza | 7.2  (.00002) | -.00003\*\*  (7.7) | -.00003\*\*  (7.8) | .00002  (.00002) | .00003  (.00002) |
| No Cadastre | -.37  (.07) | -.12  (.05) | -.14  (.05) | -.29\*\*  (.08) | -.26\*  (.08) |
| Constant | .37  (.31) | .45  (.18) | .49  (.21) | -.1  (.29) | .1  (.3) |
|  |  |  |  |  |  |
| Judicial  district dummies | No | No | No | No | No |
| N | 217 | 217 | 217 | 189 | 189 |
|  | .27 | .07 | .09 | .29 | .33 |
| F | 29.7\* | 5.3\*\* | 3.6\*\* | 20.8\*\* | 43.9\*\* |

Notes:

This table displays coefficients from linear probability regressions with the dependent variable taking value 1 if the municipality is reported to have a temporary settlement approved and 0 otherwise. 'Union 1931' is a dummy variable taking value 1 if there was a peasant union registered in the municipality by October 1931. 'Invasions, before reform' is the number of invasions reported in the municipality from April 1931 to early November 1932. 'Petty theft, before reform' is the number of petty theft events reported in the municipality, from April 1931 to early November 1932. 'Violence, before reform' is the number of violent clashes reported in the municipality, from April 1931 to early November 1932.The next four variables are proxies for collective action that is contemporaneous to the deployment of intensification. 'Union, reform period' is the number of local peasant unions or *comunidades* reported in the Peasant Census 1933. 'Invasions, reform period' is the number of invasions between the 3rd November 1932 and the 31st May 1933. 'Theft, reform period' is the number of petty theft cases from the 3rd November 1932 to the 31st May 1933. 'Violence, reform period' is the number of violent clashes in the same period 'Log pop1930' is the natural logarithm of the municipality's population in 1930. 'Head District' is a dummy variable taking value 1 if the municipality is the head city in the judicial district and 0 otherwise. 'Area expropriable' is the area in hectares included in the Registry of Expropriable Property, this does not measure directly expropriable land but is the total area of farms affected by land reform. 'No Cadastre' is a dummy variable taking value 1 if Carrión (1975 [1932]) does not report Cadastral data for the municipality, meaning most probably that the Cadastre had not been completed for the municipality.

Robust standard errors in parentheses. \* denotes p<0.05; \*\* denotes p<0.01.

**APPENDIX A.4. Intensive margins**

Detailed evidence on the timing of settlement plans approved by the IRA and Parliament and evidence on loans given to local peasant unions (*comunidades*), the number of settlers in each municipality and the total area expropriated allow us to understand the timing of approval of settlement plans.

We address the issue of timing by estimating a duration model trying to explain the adoption of a settlement plan in Badajoz and Cáceres separately since the passing of the decree of intensification on the 3-4th November 1932. For this reason, we use *Gaceta de Madrid* and *El Socialista* to track the passing of settlement plans on a daily basis.

We estimate a Cox proportional hazard model in which the 'failure' event is the passing of the settlement plan.

We estimate a hazard model of the type:



in which **Z** includes observed characteristics of the municipality, measures of local collective action (previous union presence, previous invasions, previous theft, previous violence, contemporaneous unions, invasions, theft and violence), as well as the spatial dummies.

In table A4.1, we report estimates of the parameters of the hazard model. We report coefficients rather than hazard rates. A positive coefficient means the speeding up of the adoption of a settlement plan and a negative coefficient reduces the speed of adoption.

**TABLE A4.1.**

**Determinants of the timing of settlement plan approval, 1932-1933**.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Badajoz**  **[1]** | **Badajoz**  **[2]** | **Cáceres**  **[3]** | **Cáceres**  **[4]** |
| Union in 1931 | .67  (.38) | -.19  (.49) | .37  (.27) | .21  (.28) |
| Invasions,  before reform | .4\*\*  (.13) | .54\*\*  (.19) | .38  (.47) | .43  (.51) |
| Petty theft,  before reform | .05  (.13) | -.03  (.16) | -.2  (.31) | -.06  (.36) |
| Violence,  before reform | .82\*  (.41) | 1.19\*  (.51) | -.19  (.26) | -.49  (.27) |
| Union,  reform period | .23  (.13) | .27  (.15) | .032  (.13) | .03  (.14) |
| Invasions,  reform period | .02  (.09) | .19  (.12) | .1  (.08) | .06  (.09) |
| Petty theft,  reform period | .18  (.21) | .52  (.27) | .6  (.48) | .61  (.49) |
| Violence,  reform period | .15  (.58) | -.15  (.77) | -.15  (.24) | -.37  (.26) |
| Grandeza,  March 34 | .42  (.5) | 1.79\*\*  (.7) | -.76  (.79) | -.83  (.88) |
| Grandeza,  August 34 | .92  (.84) | 3.49\*\*  (.57) | .72  (.4) | .67  (.5) |
| 20 km radius,  Grandeza | -.82\*  (.34) | -.4  (.48) | .53\*  (.26) | .62  (.33) |
| Log pop1930 | -.03  (.22) | -.1  (.26) | .15  (.18) | .37  (.21) |
| Head district | -.73  (.7) | -1.56\*  (.75) | -.13  (.52) | .24  (.54) |
| Area\_  expropriable | .00002  (.00002) | .00003  (.00002) | .00002  (.00001) | .00001  (.00001) |
| No Cadastre | -.48  (.43) | -.4  (.48) | -.82  (.26) | -.07  (.38) |
| Judicial  district dummies | No | Yes | No | Yes |
| N | 159 | 159 | 216 | 216 |
|  | 43.5\*\* | 102\*\* | 51.7\*\* | 80.3\*\* |

Notes:

We report only selected coefficients (not hazard rates). A positive coefficient means the variable accelerates the passing of a (temporary) settlement plan. The dependent variable is the number of days until a settlement plan is passed in the municipality. The event study window is 365 days since the 4th November of 1932. 'Union 1931' is a dummy variable taking value 1 if there was a peasant union registered in the municipality by October 1931. 'Invasions, before reform' is the number of invasions reported in the municipality from April 1931 to early November 1932. 'Petty theft, before reform' is the number of petty theft events reported in the municipality, from April 1931 to early November 1932. 'Violence, before reform' is the number of violent clashes reported in the municipality, from April 1931 to early November 1932.The next four variables are proxies for collective action that is contemporaneous to the deployment of intensification. 'Union, reform period' is the number of local peasant unions or *comunidades* reported in the Peasant Census 1933. 'Invasions, reform period' is the number of invasions between the 3rd November 1932 and the 31st May 1933. 'Theft, reform period' is the number of petty theft cases from the 3rd November 1932 to the 31st May 1933. 'Violence, reform period' is the number of violent clashes in the same period. 'Grandeza, March 1934' is a dummy variable taking value 1 if the municipality is reported as having *Grandeza*-owned land expropriated before the 31st of March 1934 and 0 otherwise. 'Grandeza, August 34' is a dummy variable taking value 1 if the municipality is reported as having Grandeza-owned land expropriated between the 31st March 1934 and 1st September 1934. '20 km radius Grandeza' is a dummy variable taking value 1 if the municipality is within a 20 km radius from municipalities having Grandeza land expropriated and 0 otherwise. 'Log pop1930' is the natural logarithm of the municipality's population in 1930. 'Head District' is a dummy variable taking value 1 if the municipality is the head city in the judicial district and 0 otherwise. 'Area expropriable' is the area in hectares included in the Registry of Expropriable Property, this does not measure directly expropriable land but is the total area of farms affected by land reform. 'No Cadastre' is a dummy variable taking value 1 if Carrión (1975 [1932]) does not report Cadastral data for the municipality, meaning most probably that the Cadastre had not been completed for the municipality.

\* denotes p<0.05; \*\* denotes p<0.01.

We also explore loans disbursed to local *comunidades* (per settler) as another intensive margin of reform. Here we use the same explanatory variables, with the main hypothesis being that loans might be channelled first to municipalities with greater conflict and collective action. With this idea, we run regressions separately for the two provinces, the total amount disbursed per settler in each settlement plan. Here we restrict the sample of municipalities to municipalities having had a settlement plan approved in 1932-1933. There is also selection bias in this sample, because we do not have information on the number of eligible peasants in about 20 per cent of municipalities that did not return their peasant census. The main hypothesis is not confirmed in the data. Early union presence gets negative coefficients, as invasions and violent events. In most cases, contemporaneous collective action is negatively correlated with loans. *Grandeza-*presence is also not a main driver of loans.

**TABLE A4.2.**

**Loans received per settler, 1933.**

|  |  |  |
| --- | --- | --- |
|  | **Badajoz**  **Amount lent per settler** | **Cáceres**  **Amount lent per settler** |
| Union in 1931 | -20.97  (46.73) | -6.21  (4.56) |
| Invasions,  before reform | -4.48  (31.81) | 3.41  (4.85) |
| Petty theft,  before reform | 1.98  (15.06) | -2.36  (2.81) |
| Violence,  before reform | -7.03  (61.01) | -1.16  (2.36) |
| Union,  reform period | 6.8  (14.67) | 1.3  (2.09) |
| Invasions,  reform period | -5.4  (9.67) | -1.6  (1.39) |
| Petty theft,  reform period | 26.61  (31.3) | -7.91  (5.35) |
| Violence,  reform period | -2.65  (84.18) | -.44  (3.23) |
| Grandeza,  March 34 | 5.94  (45.66) | -6.8  (7.9) |
| Grandeza,  August 34 | 3.23  (58.34) | -9.98  (11.03) |
| 20 km radius,  Grandeza | 50.42  (60.73) | -11.27  (7.76) |
| Log\_pop1930 | -70.5  (43.41) | 4.88  (3.76) |
| Head district | 7.38  (65.53) | -14.12  (9.2) |
| Area\_expropriable | .002  (.002) | .0001  (.0002) |
| No Cadastre | -67.05  (57.5) | -5.12  (3.63) |
| Constant | 695.78\*  (349) | -19.91  (19.25) |
| Longitude, latitude, altitude | No | No |
| Judicial district dummies | No | No |
| N | 54 | 90 |
|  | .17 | .12 |
| F | 0.5 | 0.22 |

Notes:

OLS regressions with the total loan disbursed in each municipality by October 1933 divided by the number of settlers in 1933 as dependent variable. 'Union 1931' is a dummy variable taking value 1 if there was a peasant union registered in the municipality by October 1931. 'Invasions, before reform is the number of invasions reported in the municipality from April 1931 to early November 1932. 'Petty theft, before reform' is the number of petty theft events reported in the municipality, from April 1931 to early November 1932. 'Violence, before reform' is the number of violent clashes reported in the municipality, from April 1931 to early November 1932.The next four variables are proxies for collective action that is contemporaneous to the deployment of intensification. 'Union, reform period' is the number of local peasant unions or *comunidades* reported in the Peasant Census 1933. 'Invasions, reform period' is the number of invasions between the 3rd November 1932 and the 31st May 1933. 'Theft, reform period is the number of petty theft cases from the 3rd November 1932 to the 31st May 1933. 'Violence, reform period' is the number of violent clashes in the same period. 'Grandeza, March 1934' is a dummy variable taking value 1 if the municipality is reported as having *Grandeza*-owned land expropriated before the 31st of March 1934 and 0 otherwise. 'Grandeza, August 34' is a dummy variable taking value 1 if the municipality is reported as having Grandeza-owned land expropriated between the 31st March 1934 and 1st September 1934. '20 km radius Grandeza' is a dummy variable taking value 1 if the municipality is within a 20 km radius from municipalities having Grandeza land expropriated and 0 otherwise. 'Log pop1930' is the natural logarithm of the municipality's population in 1930. 'Head District' is a dummy variable taking value 1 if the municipality is the head city in the judicial district and 0 otherwise. 'Area expropriable' is the area in hectares included in the Registry of Expropriable Property, this does not measure directly expropriable land but is the total area of farms affected by land reform. 'No Cadastre' is a dummy variable taking value 1 if Carrión (1975 [1932]) does not report Cadastral data for the municipality, meaning most probably that the Cadastre had not been completed for the municipality.

Robust standard errors in parentheses. \* denotes p<0.05; \*\* denotes p<0.01.