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THE ROLE OF SUBNATIONAL FISCAL POLICY, INSTITUTIONAL, AND SOCIO-POLITICAL FACTORS IN SUCCESSFUL FISCAL CONSOLIDATIONS—LESSONS FOR FRANCE[1]

International experience suggests that successful fiscal consolidations require strong coordination of fiscal policies across all government levels. Greater fiscal autonomy of subnational governments, supported by adequate (own) revenues and well-designed fiscal rules, can increase their fiscal accountability and responsibility, and, thus, the prospects for achieving a successful fiscal consolidation. Greater political cohesion and lower inequality also influence successful consolidations. These lessons could be helpful for the design of fiscal policies in France, as it strives to reduce its general government deficit over the medium term.

A. Context

1. **The global financial crisis (GFC) has affected the public finances of OECD economies at all government levels** (Figure 1, top panels)**.**[2] Central government finances have been the most affected, due to the loss in revenue and the increased expenditure associated with the financial and real sector support (Figure 1, middle right panel), although subnational governments were also impacted. As a result, in advanced OECD economies, the general government (GG) debt increased on average by about 30 percentage points of GDP between 2007 and 2017. [3] France experienced a somewhat similar trend, although the contribution of subnational governments has been historically lower (Figure 1, middle left and bottom left panels).

2. **Following the crisis and given the sharp rise in public debt levels, many countries adopted fiscal consolidation measures** (IMF 2016, 2018). Fiscal consolidation efforts started in 2009, leading to a decline in central government deficits, and, to a lesser extent, subnational government deficits (Figure 1, middle right). However, in several cases, the implementation of consolidation measures was hindered by the fragile economic recovery, increasing inequality, and political fragmentation. In the case of France, the central government deficit was already larger than the OECD median before the crisis, and the rate of post-crisis improvement slowed after 2013, leading to a gap relative to peers in recent years. The recovery in subnational government balances, while somewhat slower than peers, has caught up with them in recent years (Figure 1, middle right and bottom right panels).

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[1] Prepared by Aleksandra Zdzienicka (FAD).

[2] Unless indicated otherwise, the central government also includes extrabudgetary units but excludes social security funds. The subnational government consists of all government units of states, provinces, regions, municipalities, and villages.

[3] Our sample consists of 22 OECD countries: Austria, Australia, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Slovak Republic, Slovenia, Spain, Sweden, the United Kingdom, and The United States.

3. These developments have renewed interest in the role of not only central but also subnational, institutional, and socio-economic factors in influencing the success of fiscal consolidations. The literature has typically focused on consolidation measures at the central government level (Alesina and other 2012, IMF 2014), while less has been said about the role of other government levels (Gbohoui and others 2019). In theory, subnational factors could either support or hinder central government consolidation efforts (Foremny and others, 2017). On the one hand, fiscal adjustment at the GG level could be more easily achieved by reducing fiscal resources for subnational units, rather than by adopting politically costly measures at the central level (Darby and others 2005). On the other hand, in more fiscally decentralized countries, subnational governments could hamper the implementation of consolidation measures by not adhering to spending objectives at the GG level, including because of weak political cohesion, inability to reduce transfers, or weak rules that are unable to constrain the accumulation of local government debt (Blochliger 2013; Boadway and Eyraud 2018).

B. The Role of Fiscal Policy, Institutional and Socio-Political Factors in Successful Consolidations—A Cross Country Empirical Analysis

4. This paper aims at assessing the role of subnational, institutional, and socio-economic factors in successful fiscal consolidations using a cross-country panel regression analysis.

- **Successful fiscal consolidation episodes are defined as large contractionary fiscal adjustments associated with a substantial debt reduction** (Alesina and Perotti, 1995; Alesina and Ardagna 2009, 2012). Fiscal policy is considered contractionary when the cyclically-adjusted balance substantially increases to reduce debt rather than reflect economic fluctuations. Here, the success of a contractionary policy is assessed by a large reduction in the debt-to-GDP ratio three years after the beginning of fiscal consolidation episodes, to avoid classifying as 'successful' episodes followed by policy reversals.[4] According to this definition, during 1990–2016, more than 40 percent of contractionary fiscal adjustment episodes led to a significant debt reduction (Figure A1 in Appendix).

- **Fiscal policy at different government levels is measured by the fiscal policy stance adopted by the central and subnational governments**.[5] To focus on discretionary policy actions, rather than adjustments driven by economic fluctuations, the fiscal policy stance is computed as a cyclically-adjusted fiscal impulse (Appendix).[6] Institutional factors include the degree of fiscal decentralization (e.g., share of GG spending executed through or revenue

[4] This identification strategy focuses on fiscal consolidation episodes that resulted in a substantial and sustained reduction in the debt level. In other words, it excludes fiscal consolidation episodes followed by the policy reversals and those affected, for instance, by adverse economic developments (e.g., GDP growth collapses and/or interested rate spikes).

[5] The central government includes extrabudgetary units. Depending on administrative set-ups, the subnational governments include all government units of states, provinces, regions municipalities, and villages.

[6] For the analytical analysis, a cyclically-adjusted change in the Social Security Fund balance enters as a control. First, because some countries in the sample do not have such a fund. Second, the 'fiscal policy stance' of the social security fund reflects central government decisions.

collected by the subnational units) and the existence of fiscal rules at the different government levels. Policy cohesion is measured by the number of votes that the government won in the national (federal) and subnational elections. The signs of the regression coefficients capture policy coordination. Income inequality and unemployment dispersion across regions capture socio-economic characteristics.

- **The probability of a successful fiscal consolidation is estimated using an unbalanced panel probit model with the standard errors clustered at the country level**. Other controls include variables that could affect fiscal adjustment or consolidations such as the initial level of public debt, economic (e.g., GDP growth, inflation) and financial conditions (e.g., long-term interest rates). Global shocks are captured using time-fixed effects. The sample includes 22 OECD countries over the period 1990–2016 and is mainly driven by the availability of fiscal decentralization data.

5. The regression results indicate that successful fiscal consolidation episodes are associated with a supportive fiscal policy stance at both central and subnational government levels.[7] In particular, a contractionary fiscal policy impulse at both levels—which indicates the policy alignment or coordination—increases the probability of a successful fiscal consolidation (Table 1 column I). The supportive role of the subnational government is not only a result of lower central transfers (column II) but also of the alignment of their own fiscal policy stance to the central level. Specifically, a tighter fiscal policy stance measured by the adjustment of the subnational government own spending to own resources is found to have a positive and statistically significant impact on the success of fiscal consolidation (column IV). Income inequality across regions and political cohesion across government levels have no direct effects on fiscal consolidation success but indirectly increase the contribution of central and subnational fiscal policy, as will be detailed below.

6. The role of subnational fiscal policy has increased since the GFC. First, compared to the central government policies and transfers, the impact of subnational fiscal policy on fiscal consolidation has been increasing over time. This finding is in line with a general trend of increasing fiscal decentralization across OECD countries. Second, the effect of subnational fiscal policy on fiscal consolidation has statistically increased after the GFC with the beginning of fiscal stabilization efforts in 2009 (Figure 2, top left panel).

7. Greater decentralization increases the role of subnational governments in a successful fiscal consolidation. The impact of subnational fiscal policies on the probability of success of fiscal consolidation is larger in countries with greater revenue decentralization—measured by the ratio of subnational government taxes to general government taxes (Figure 2, middle left panel)—which could indicate that subnational governments are more accountable in this case. Successful

[7] The analysis is based on the panel probit regressions. The coefficients reported in Table 1 indicate a direction of the effects of fiscal policy stance at a different level of governments. Column III illustrates the magnitude of the impact. For instance, a tighter fiscal policy stance at the subnational level by one increase the probability of successful fiscal consolidation by 0.8. Similarly, a decline in transfers from central to subnational governments by one increase the probability of a successful fiscal consolidation by the same magnitude. See Appendix for details.

consolidations are equally supported by a higher expenditure decentralization. However, the composition of subnational spending is important (Figure 2, bottom panel): the role of subnational fiscal policy is significantly larger in countries with a larger share of health or education spending executed by subnational units, while the size of capital spending does not have statistically significant effects, perhaps because it is often excluded from fiscal rules.

8. Fiscal rules raise the chances of a successful fiscal consolidation. The results indicate that fiscal consolidations are more successful in countries with fiscal rules at both the central and subnational government levels (Figure 2, top right panel). A few factors can explain this finding (IMF, 2009). The existence of fiscal rules provides a legal basis and an enforcement mechanism to discipline fiscal policy and increase the credibility of fiscal policies. From the subnational government perspective, the existence of a fiscal rule plays a disciplinary role alleviating a soft budget constraint and reducing the common pool problem (IMF, 2019).[8] Finally, the adoption of fiscal rules helps provide greater coordination of fiscal policy across government levels, provided that the rules are well designed and binding on local governments.

9. Greater political autonomy and cohesion strengthens the role that subnational fiscal efforts play in successful consolidations. The effect of a given fiscal effort by subnational governments in the likelihood of a successful fiscal consolidation is increased when subnational units have greater 'autonomy' in the decision-making process (Figure 2, middle right panel).[9] Similarly, greater political cohesion, measured by the number of votes that the ruling party won in subnational elections, also increases the effect of subnational fiscal policy on the likelihood of fiscal consolidation.

10. The role of fiscal policy in the success of fiscal consolidation increases in countries that are more redistributive and have lower regional income disparities. The regression results suggest that the impact of central government fiscal policy on the probability of a successful fiscal consolidation is statistically larger in countries in which fiscal policy plays a larger role in addressing market income inequality (Figure 3, left panel).[10] This could be because in more redistributive countries, there is more social cohesion and support for consolidation policies when needed. The analysis suggests that more redistributive countries tended to adjust their social spending relatively more than other countries, consistent with the finding in the literature that transfer-based fiscal adjustment tends to

[8] The common pool problem occurs as subnational governments share the resources funded by taxpayers of other jurisdictions through central transfers and thus may fail to internalize the full cost of their spending.

[9] 'Autonomy' is measured using a composite indicator that accounts for the existence of the legal framework, the possibility of self-organization, independence of the spending and revenue allocation decisions, the degree of independence from the central government's control and the influence on the central government decisions by the subnational governments (Ladner and others, 2015).

[10] The role of the central government fiscal policy in successful fiscal consolidations, however, does not depend on the level of gross (i.e., before taxes and transfers) income inequality (Figure 6, left panel).

be more long-lasting (Alesina and others, 2017).[11] In a similar vein, the role of subnational government fiscal policy in influencing the likelihood of successful fiscal consolidations is higher in countries with lower net regional inequality (measured by the dispersion of post-tax and transfer income across regions; Figure 3, right panel).

C. Implications for France

11. A few episodes of fiscal consolidation adjustments in France since the 1990s have not been able to lead to a sustained reduction in public debt. France registered three episodes of large positive adjustment of the general government balance in 1996, 2011, and 2012 (Appendix, Figure A1). But none of these adjustments constitute successful fiscal consolidations as defined in this study, as they did not lead to significant and durable reductions in the level of general government debt.[12] To compare the role of subnational fiscal policy, and other factors in France with that in other OECD countries, additional regressions are estimated using episodes of large contractionary fiscal adjustments without taking into account the impact on the debt.

12. The role of subnational fiscal policy in fiscal adjustments in France has increased after the GFC. The regression results suggest a similar impact of the role of central fiscal policy in France relative to other OECD countries in the probability of implementing large fiscal consolidations (Figure 4, left panel). The subnational governments are found to have played a significantly lower role in France relative to other OECD countries. However, their role in the probability of contractionary fiscal adjustments in France has significantly increased since 2009 (Figure 4, right panel). Other factors, such as fiscal rules, decentralization, political cohesion, the degree of redistribution or regional inequality are not found to be statistically significant in France compared to other OECD countries.

13. What does the analysis imply for the design and conduct of fiscal policy in France going forward? First, more efforts to align the fiscal policy stance at both central and subnational levels, including through the use of effective rules, will be essential to achieve a sustained decrease in public debt.[13] The recent experience with the contractual approach with local governments limiting their spending growth to 1.2 percent, which resulted in a notable reduction in their current spending in 2018, is encouraging and will need to be sustained to generate lasting benefits for France's public finances. Second, more decentralization of revenue and spending decisions from the central to local governments, if carefully designed to foster fiscal accountability and responsibility of local governments, while ensuring that fiscal objectives at the local level remain in line with overall

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[11] Transfers-based fiscal consolidation (including through reducing social spending) were usually implemented through multi-year plans allowing time to modify social agreements and were less detrimental for growth (Alesina and others, 2017). Countries that relied more on transfers-based adjustment (including through social spending) were usually those with larger redistribution policies. The regression results are available upon request.

[12] In fact, the last episode of successful fiscal consolidation was in the mid-1970s (Alesina and others, 2019), which is beyond the scope of this study (data limitations preclude extending the analysis to the 1970s).

[13] The degree of expenditure decentralization (measured as the share of subnational government own spending to total general government spending) is 36 percent in France compared to an average across OECD countries of 38 percent.

general government fiscal targets, could also help to support fiscal consolidation efforts. Finally, maintaining the redistributive character of fiscal policies to reduce inequality remains desirable.

Table 1. France: Determinants of a Successful Fiscal Consolidation and Contractionary Fiscal Adjustment

Type of adjustment:	Successful Consolidation	Successful Consolidation	Successful Consolidation *(marginal effects)*	Successful Consolidation	Contractionary Adjustment
	(I)	(II)	(III)	(IV)	(V)
Central Fiscal Stance	1.305***	1.589 **	0.041**	3.020***	1.090***
	(0.452)	(0.755)	(0.022)	(0.871)	(0.368)
Subnational Fiscal Stance	6.484***			5.625*	
	(2.248)			(2.821)	
Subnational Fiscal Stance (own spending/own revenue)		37.691**	0.817**		15.755***
		(16.975)	(0.381)		(5.812)
Transfers (+: net increase at the central level)		51.815***	0.813***		3.337*
		(12.179)	(0.276)		(2.293)
Political cohesion lagged)				0.038	
				(0.037)	
Income inequality (lagged)				-0.028	
				(0.049)	
GG Debt/GDP (lagged)	0.004	0 .024	0.001	0.011*	0.000
	(0.005)	(0.016)	(0.000)	(0.007)	(0.004)
GDP growth (lagged)	0.145*	0.740***	0.010***	0.055	0.003
	(0.061)	(0.258)	(0.006)	(0.284)	(0.072)
Long-term interest rate (change)	-0.856***	-2.132***	-0.054***	-0.568**	-0.320**
	(0.261)	(0.654)	(0.014)	(0.284)	(0.124)
CPI (lagged)	3.163	1.665	0.578**	4.480	1.375
	(4.256)	(1.185)	(0.578)	(6.884)	(2.785)
Observations	235	235	235	[173]	235

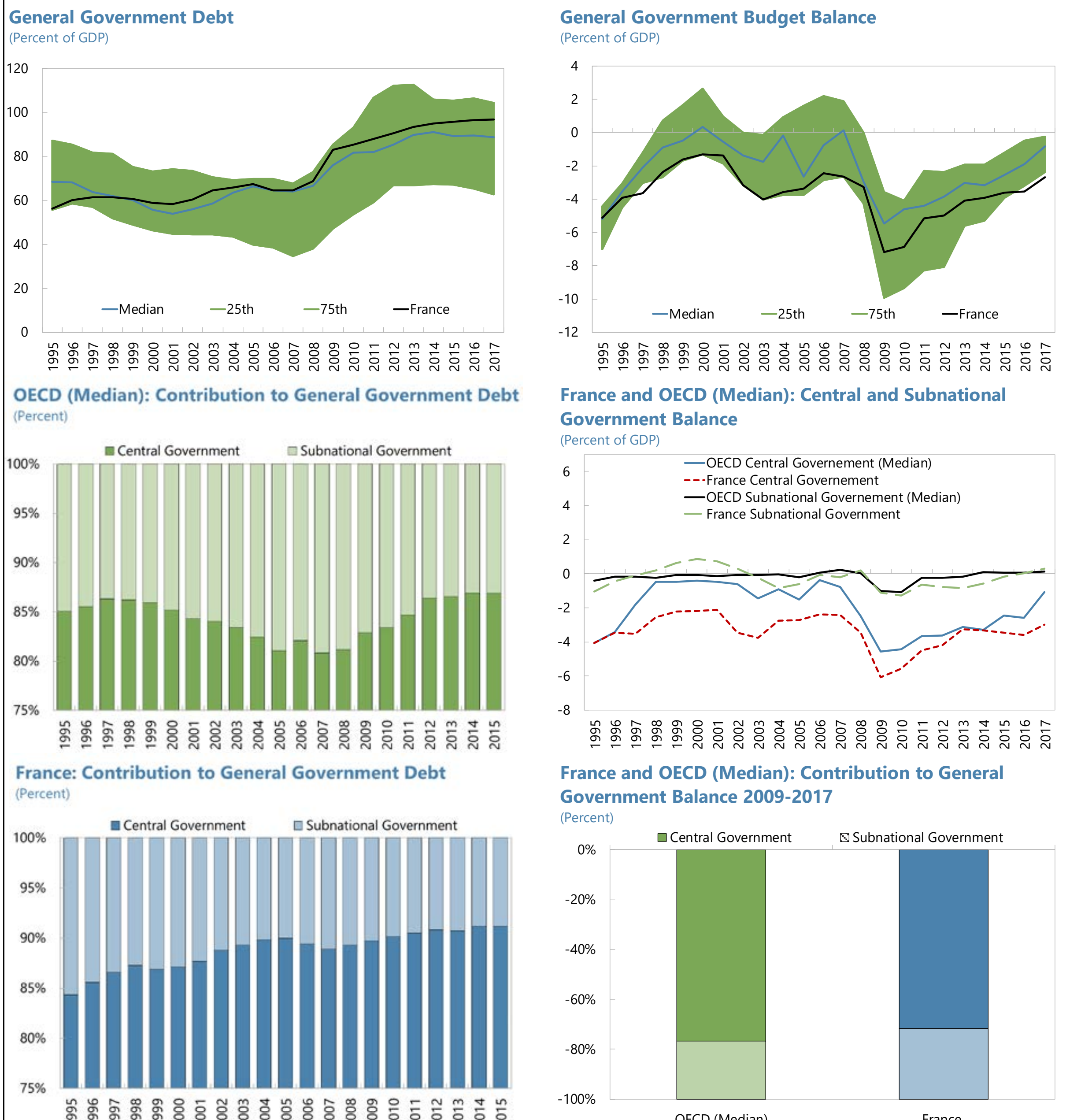
Note: Table 1 show report the predicted probability based on the panel probit estimates with robust standard errors clustered at the country level based on Equation (6a and b) in Box 1, **except** Column III that reports the population-averaged marginal effects of the estimates in Column II. **Successful consolidation:** a successful fiscal consolidation with a positive large fiscal adjustment and a large reduction of the debt-to-GDP ratio within three years. **Contractionary fiscal adjustment:** a positive change in the cyclically-adjusted overall general government fiscal balance above one standard deviation in a single year**. Central and subnational fiscal policy stance:** a change in the cyclically-adjusted subnational government fiscal balance. **Political cohesion:** percent of votes of the ruling party in central and local elections. **Income inequality:** income dispersion across regions. Significance levels: */**/*** significant at 10, 5, and 1 percent, respectively.
Sources: OECD National Accounts; IMF Fiscal Decentralization, Global Debt, IFS, WEO, Global Debt, and Fiscal Rules Databases; Global Elections Database; the Database of Political Institutions; the National Election Database.

Table 2. France: Determinants of a Contractional Fiscal Adjustment in France vs. OECD Countries					
Type of adjustment:	**France**	**OECD countries**	**France (marginal effect**	**OECD countries (marginal effect)**	Test about the difference in the coefficients
	(I)	(II)	(III)	(IV)	(V)
Central Fiscal Stance	6.974 *	0.989**	0.819*	0.109***	
	(4.964)	(0.411)	(0.603)	(0.026)	
Subnational Fiscal Stance (own spending/own revenue)	12.224*	24.371***	0.486	0.687***	*
	(9.623)	(6.181)	(0.486)	(0.290)	
Political cohesion (lagged)	2.536	11.269*	0.177	0.787**	
	(3.282)	(7.029)	(0.230)	(0.358)	
Political autonomy (lagged)	10.525	19.99*	0.495	0.941***	
	(37.960)	(12.331)	(0.318)	(1.839)	
Income inequality (lagged)	3.600	0.375	0.245	0.025	
	(2.643)	(0.363)	(0.176)	(0.024)	

Note: Table show the predicted probability coefficients and marginal effects estimated based Equation (8) in Appendix. Other control variables are not reported for brevity.
Sources: OECD National Accounts; IMF Fiscal Decentralization, Global Debt, IFS, WEO, Global Debt, and Fiscal Rules Databases; Global Elections Database; the Database of Political Institutions; the National Election Database.

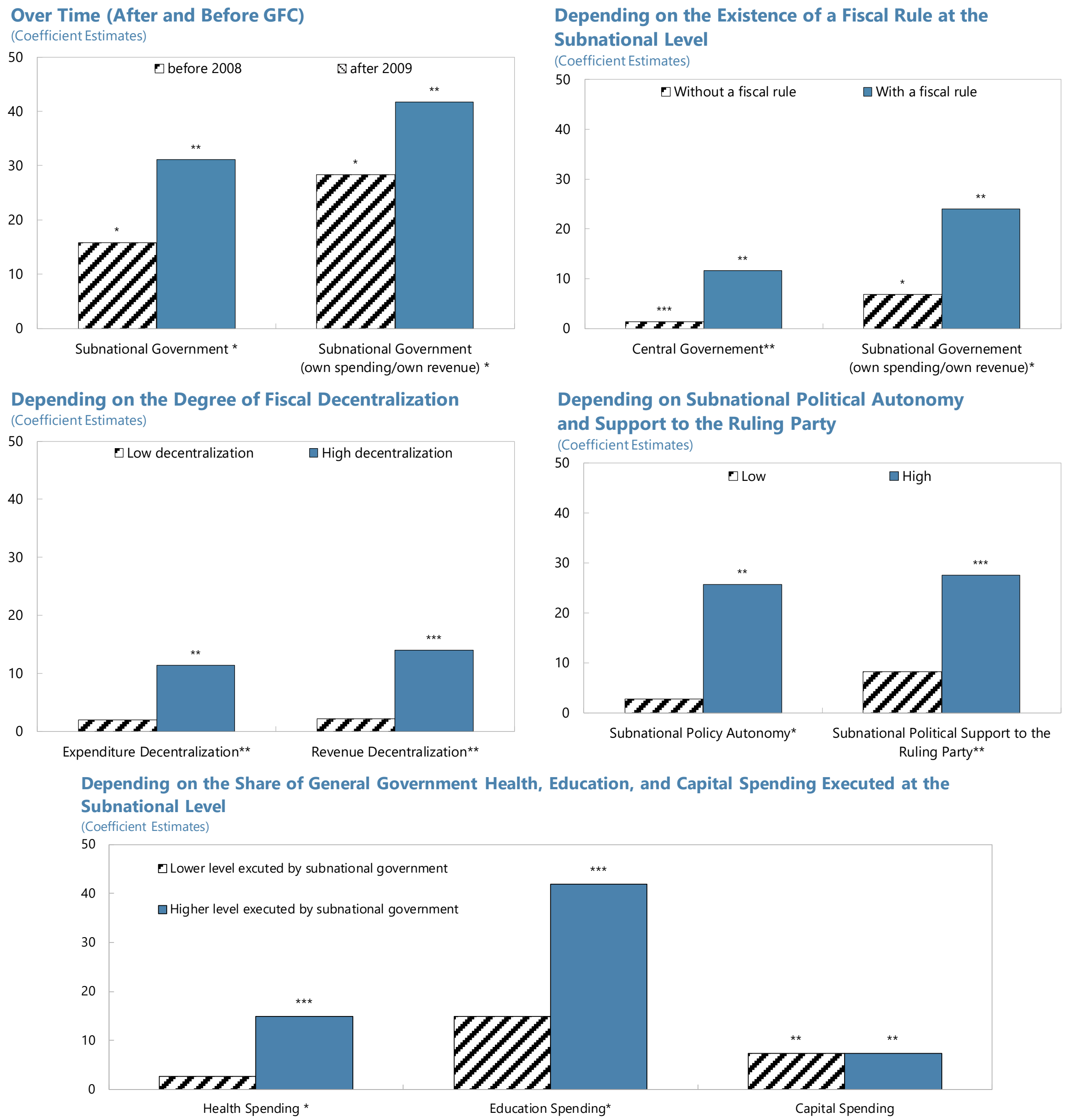
Figure 1. Debt and Fiscal Balance: General, Central, and Subnational Governments

(1995–2017, Percent of National GDP)



Note: GG includes central government, extrabudgetary units, and social security funds. The middle left and bottom left panels show the contribution (share) of central and subnational government debt to total GG debt. The subnational government consists of all government units of states, provinces, regions, municipalities, and villages. Central and subnational government include net transfers to the central and subnational governments, respectively. Vertical fiscal imbalances are measured as a ratio of own spending to own revenue.
Sources: OECD National Account, IMF GFS, IMF WEO.

Figure 2. Role of Subnational Fiscal Policy in Successful Fiscal Consolidations

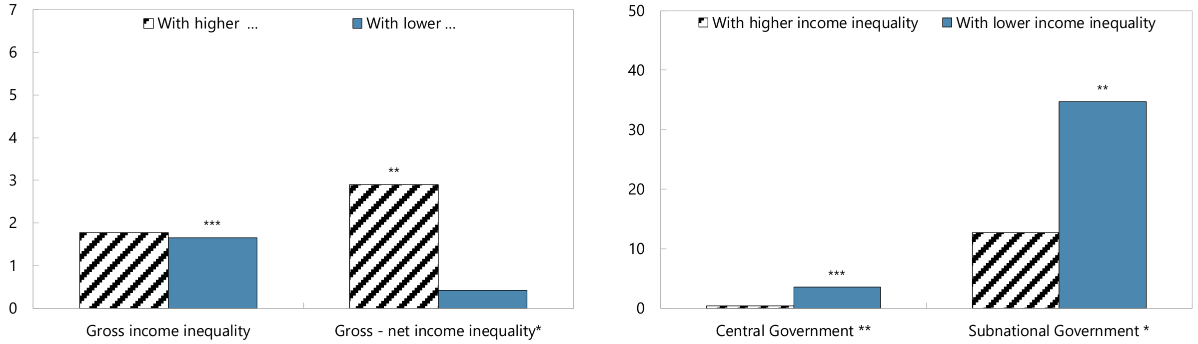


Note: The regression results show the coefficient estimates based on Equation (7). Grey (blue) bars denote the direction of the impact of subnational fiscal policy stance on the probability of a successful fiscal consolidation before (after) GFC, top left panel, and for countries with a lower (higher) level decentralization, middle left and bottom panels, without (with) fiscal rule, top right panel, and with lower (higher) political autonomy or political support for the central government, middle right panel. The test of the equality of the coefficients is reported on the x-axis. ***/**/* indicates significance at 1, 5, and 10 percent, respectively.
Sources: OECD National Accounts; IMF Fiscal Decentralization, Global Debt, IFS, WEO, and Fiscal Rules Databases; Global Elections Database; the Database of Political Institutions; the National Election Database, and IMF staff estimates.

Figure 3. Role of Social Factors in Successful Fiscal Consolidations

Depending on the Share of Income Inequality Smoothed through Redistributive Policies (Coefficient Estimates)

Depending on (Net) Income Inequality at the National and Regional Level (Coefficient Estimates)



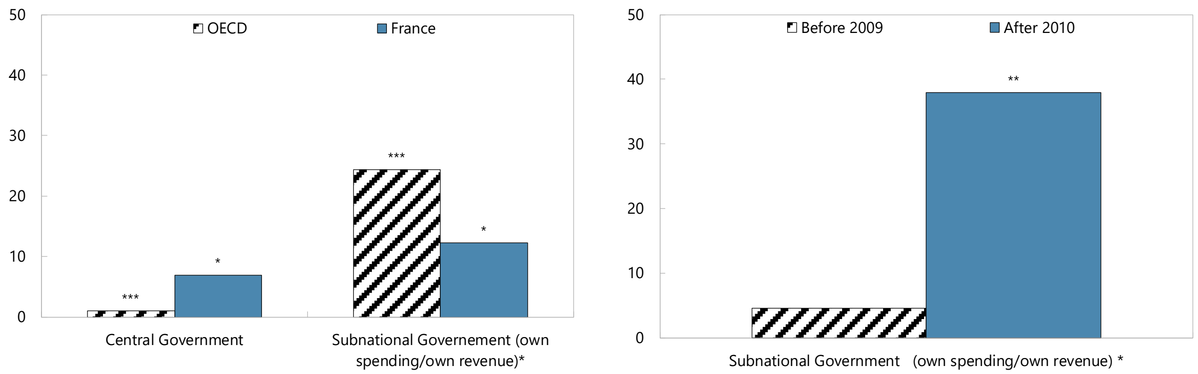
Note: The regression results show the coefficient estimates based on Equation (7). Grey (blue) bars denote the direction of the impact of subnational fiscal policy stance on the probability of a successful fiscal consolidation for countries with a higher (lower) level shares or levels of subnational social factors. The test of the equality of the coefficients is reported on the x-axis. ***/**/* indicates significance at 1, 5, and 10 percent, respectively.

Sources: OECD National Accounts; IMF Fiscal Decentralization, Global Debt, IFS, WEO, and Fiscal Rules Databases; Global Elections Database; the Database of Political Institutions; the National Election Database, and IMF staff estimates.

Figure 4. France vs. OECD: Determinants of Contractionary Fiscal Adjustments

Central and Subnational Fiscal Policy (Coefficient Estimates)

Subnational Policy in France over Time (Coefficient Estimates)



Note: The regression results show the coefficient estimates based on Equation (8). Left panel: grey (blue) bars denote the impact of central and subnational fiscal policy to a positive fiscal adjustment for OECD average (France). Right panel: grey (blue) bars denote the impact of subnational fiscal policy to a positive fiscal adjustment for France before (after) 2009. The test of the equality of the coefficients is reported on the x-axis. ***/**/* indicates significance at 1, 5, and 10 percent, respectively.

Sources: OECD National Accounts; IMF Fiscal Decentralization, Global Debt, IFS, WEO, and Fiscal Rules Databases; Global Elections Database; the Database of Political Institutions; the National Election Database, and IMF staff estimates.

Appendix II. Methodological Approach

To estimate the impact of subnational factors on fiscal adjustment, the analysis proceeds in three steps following the approach by, for instance, Alesina and Perotti (1995), Alesina and Ardagna (2009, 2012). First, it identifies the episodes of a successful fiscal consolidation at the national levels based on a 'sizable' positive change of the cyclically-adjusted the GG balance over a year period and a large reduction in GG debt levels three years after the beginning of fiscal consolidation episodes). Second, it examines the effect of subnational fiscal policy, political, institutional, and social factors on these identified episodes of fiscal adjustments and fiscal consolidation episodes. Finally, we extend this approach to estimate whether the impact of subnational factors differs for France compared to other OECD countries.

1. Identifying contractionary fiscal adjustment episodes.

The cyclically-adjusted ('discretionary' component of) the general government (GG), of fiscal impulse *(FI)*, is computed in three steps. First, the GG balance (g_{it}) is regressed on a time trend (τ), the log change in GDP (G_{it}), and country-fixed effects (α_i) (Eq. (1)). Then, the GG balance is computed at the level it would be if GDP growth was the same as in the previous year (Eq. 2). Finally, the fiscal impulse *(FI)* is computed as a difference of two (Eq.3):

$$g_{it} = \alpha_i + \gamma\tau \quad + \beta\Delta logGDP_{it-1} + \varepsilon_{it} \tag{1}$$

$$g_{it}(G_{it-1}) = \hat{\alpha}_{i+}\hat{\gamma}\tau_t + \hat{\beta}\Delta logGDP_{it-1} + \hat{\varepsilon}_{it} \tag{2}$$

$$FI_{it} = g_{it}(G_{it-1}) - g_{it-1} \tag{3}$$

Episodes of large positive fiscal adjustment are identified as 1 if fiscal impulse for a country i in a year *t* is more than one standard deviation from the average change in the fiscal impulse for this country (Eq. 4), and zero otherwise:[1]

$$\begin{cases} FA_{it} = 1 \; if \; FI_{it} \geq \mu_i + \sigma_i \\ FA_{it} = 0, \; otherwise \end{cases} \tag{4}$$

Episodes of successful fiscal consolidation (*FC*) are large positive fiscal adjustments associated with a significant decline in the gross GG debt between the beginning of fiscal consolidation and three years later:

$$\begin{cases} FC_{it} = 1 \; if \; FI_{it} = 1 \; and \; \Delta \; GG \; debt_{(t+3)-t} \leq p_{25} \\ FC_{it} = 0, \; otherwise \end{cases} \quad (5).$$

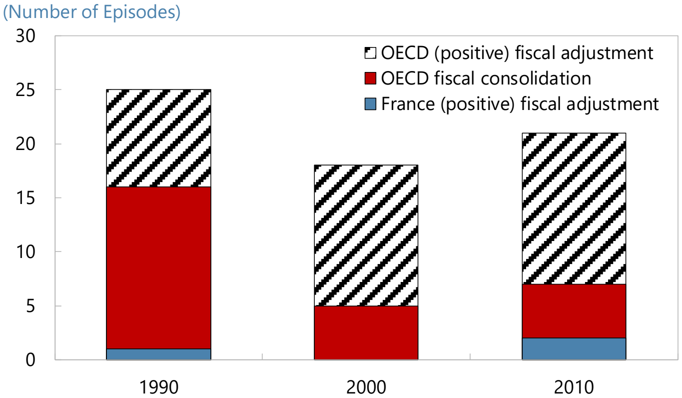
[1] Following Alesina and Perotti (1995), to capture differences between countries the threshold is calibrated separately for each country.

In particular, a successful fiscal consolidation takes a value of 1 if following a contractionary fiscal adjustment, the GG debt declines between t and t+3 is below the 25th percentile of the country distribution over the sample period.

Data availability of subnational fiscal variables limits the estimation sample to an unbalanced panel of 22 advanced OECD economies during the period 1990–2016. Figure A1 illustrates the number of positive fiscal adjustment and fiscal consolidation episodes for the OECD countries and France.

Figure A1. Number of Positive Fiscal Adjustment and Fiscal Consolidation Episodes: for France vs. OECD Countries

(Number of Episodes)



Source: IMF Global Debt and WEO Databases; and IMF staff estimates.

2. Analyzing the role of subnational factors

The following regressions is estimated:

$$y_{it} = \tau_t + \beta_1 CB_{it} + \beta_2 SNB_{it} + \theta Z_{it-1} + \delta y_{it-1} + \varepsilon_{it} \quad (6a),$$

$$y_{it} = \tau_t + \beta_1 CB_{it} + \beta_2 SNV_{it} + \beta_3 T_{it} + \theta Z_{it-1} + \delta y_{it-1} + \varepsilon_{it} \quad (6b),$$

where y_{it} is a dummy variable computed using Eq. (5) that takes a value of 1 in the period of a successful fiscal consolidation and zero, otherwise. To capture France experience, a large contractionary fiscal adjustment is used an alternative dependent variable Eq 8. below).

The coefficient β_1 captures the effects of cyclically-adjusted central government fiscal policy stance *(CB)*. The coefficient β_2 captures the impact of subnational government fiscal policy stance with (SNB in Equation 6a) and without net transfers (SNV in Equation 6b). The coefficient β_3 captures the impact of the net transfers from the central to subnational governments. θ indicates the effects of other central and subnational socio-political factors (such as Gini indicators, income and unemployment dispersions across regions), while δ captures the effect of other variables affecting fiscal adjustment or consolidations such as the public debt level, economic (e.g., GDP growth, inflation) and financial conditions (e.g., long-term interest rates). Central and subnational political variables capturing the support of the parliament and subnational government to the ruling (central

government) party are computed as the number of votes (or parliament seats) that the ruling party won in the central and subnational elections. τ_t are time-fixed effects.

Estimates are based on the panel probit estimates with standard errors clustered at the country level. The coefficients included in Table 1 (expect column III) and Figure 2- indicate the predicted probability and are interpreted as the direction of the effects of independent variables (i.e., increasing or decreasing the likelihood of success fiscal adjustment). They can be used to compute the marginal effects using, for instance, an average population to give the impact of a unit (or one percent) change in the independent variable on the probability of a successful consolidation.

The role of subnational (national) factors in shaping the impact of subnational fiscal policy stance on the successful fiscal consolidation is estimated by expanding regression (6) as follows:

$$y_{it} = \alpha_i + \tau_t + \beta_1 CB_{it} + \beta_{2l} D_l SNV_{it} + \beta_{2h} D_h SNV_{it} + \beta_3 T_{it} + \theta Z_{it-1} + \delta y_{it-1} + \varepsilon_{it} \quad (7),$$

where D_l (D_h) takes a value of 1 when a subnational factor is below (above) an average of a country-time adjusted indicator. A similar specification is used to capture the impact of the national factors, as well as over time and before and after the Global Financial Crisis.

3. Analyzing the impact of central and subnational for France

To analyze the impact of subnational factors for France—that has not recorded any episodes of a successful consolidation— compared to other countries, a large contractionary fiscal adjustment is used as an alternative dependent variable. This variable is based on Eq (4) and takes a value of 1 in the period of a contractionary fiscal adjustment and zero, otherwise:

$$y_{it} = \alpha_i + \tau_t + \beta_1 CB_{it} + \beta_{2l} D_{FR} SNV_{it} + \beta_{2h} D_{NFR} SNV_{it} + \beta_3 T_{it} \, \theta Z_{it-1} + \delta y_{it-1} + \varepsilon_{it} \quad (8),$$

where D_{FR} (D_{NFR}) takes a value of 1 for France (other OECD countries). A similar specification is used to test if the impact of the central government fiscal stance, transfers to subnational units, social and political factors, and the impact over time (e.g., before and after the Global Financial Crisis) has been different for France compared to other OECD countries.

4. Data sources

Fiscal variables at general, central, and subnational levels are taken from the IMF Fiscal Decentralization and Global Debt database, OECD National Accounts database, and INSEE. Data for macroeconomic and financial controls come from IMF IFS and WEO databases. The subnational (national) factors are included in the table A1 below.

Table A1. France: Subnational and Central Institutional and Socio-Political Variables		
Factors	**Measures**	**Sources**
Fiscal spending and revenue decentralization	Spending executed, or revenue collected at the subnational level in percent of total general government spending or revenue	IMF Fiscal Decentralization
General government debt		IMF Global Debt
Structure of spending	Health, capital, and other spending executed at the subnational level in percent of total general government spending	IMF Fiscal Decentralization
Debt or budget deficit rules at the central and subnational level	0–1 variables indicating the existence of the rule of not	IMF Fiscal Rule Dataset
Income inequality	Market and net GINI, regional income dispersion	World Inequality Database and OECD Regional Statistics
Other measures of regional inequality	Regional unemployment dispersions	OECD Regional Statistics
Political cohesion at the central and subnational levels	the number of votes that the ruling party won in national (federal) and subnational elections	Global Elections Database, Database of Political Institutions, National Election Database
Subnational autonomy in decision-making process	Composite indicator of the existence of the legal framework, the possibility of self-organization, independence of the spending and revenue allocation decisions, a degree of the independence from the central government control and the influence on the central government decisions by the subnational governments	the European Commission Self-Rule Indicator for Local Government Report (2015)

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