Chapter 1
Covid-19: What Determines Policy Responses Across Europe?

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1.1 Introduction: Policy Determinants and Interactions in Pandeconomies

A decade after the great recession, we are facing something not experienced for the better part of a century. Just as the drama following the global financial crisis acted out with frightening resemblance to the great depression, the Covid-19 pandemic mirrors the Spanish flue with mass causalities and widespread fear. Both events serve as clear reminders of our societies' vulnerabilities. Both also represent major disruptions for the economy – globally and domestically.

The outbreak of Covid-19 is however an unprecedented economic shock in terms of its nature and magnitude. The economic outlook has suffered an unmatched blow on the backdrop of substantial reductions in demand. Job losses have spiked, income prospects have fallen for those employed and distancing measures have contributed to less spending. Many industries have experienced dwindling cash flows and crumbling production. This is also interrelated to sudden and substantial increase in risk and disruptions in key financial markets. Jumps in volatilities have characterised all asset classes. Fixed income has been particularly affected through rising credit spreads, and even the safest segments have experienced spikes in long-term yields (Schrimpf et al. 2020).

Financial policy makers are seeking to mitigate the impact on the real economy through extraordinary fiscal, monetary and prudential policies. Fiscal measures – such as guarantee schemes for households and firms, tax deferrals, subsidised loans

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and moratoria on debt payments – are widespread.[1] Monetary authorities have cut interest rates to support aggregate demand. Central banks have also used a variety of tools – including last resort lending operations and asset purchases – to ensure proper functioning of the financial system and an effective transmission of monetary policy. Prudential authorities have lowered capital requirements, as well as altered credit model requirements and dividend practices.

This chapter analyses policy measures in response to the Covid-19 pandemic's first and second waves in Europe. It is based on an empirical analysis where patterns are sought between contextual factors and policy responses. More specifically, it conducts regression analyses to understand the conditions that influence policy choices (in the shape of macroeconomic and social variables) and how different social and financial policies – and policy actors – interact.

Whereas most research on C19 policy has focused on the effects of policy measures in terms of their economic implications (Eppinger et al. 2020; Carlsson-Szlezak et al. 2020; Baldwin 2020; Guerrieri et al. 2020; Eichenbaum et al. 2020; Mulligan 2020; McKibbin and Fernando 2020 etc.), this chapter contributes to the small but growing literature that seeks to understand how policy choices interact and vary across countries.[2] Although the bulk of this literature is conceptual and/or theoretical (cf. Reis 2021), exceptions include Sarker (2020), who explores variations in financial policy responses in a cross-country context. Gourinchas (2020) discusses policy interactions between social and fiscal policy over the short and long run. Elgin et al. (2020) incorporates both dimensions and consider how economic stimulus relate to the stringency of social regulation. They show that variables such as median age, public health measures and GDP per capita predict governmental responses in terms of economic stimulus. However, they show that stringency of social regulation does not explain the magnitude of economic stimulus.

Closest to this chapter is Benmelech and Tzur-Han (2020) who study determinants of fiscal and monetary policy responses from the outbreak of Covid-19 until May 2020 across a sample of emerging markets and advanced economics. This chapter extends the scope of that study to also include the second wave of the pandemic, and by considering additional policy interactions in the shape of prudential and social policy, as well as the role of private policy initiatives. In addition, the European context of this chapter implies a more homogeneous sample of countries that also are coordinated and governed by a set of common rules, regulation and practices relating to financial policy. The empirical context is also unique as it represents the first case where loosened macroprudential policy has to interact with other policies in the European post-crisis regulatory architecture. In addition, the findings also add knowledge on financial policy opportunities and

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[1] For a description of measures taken in US, CA, UK, JP and the Eurozone, see Cavallino and De Fiore (2020).

[2] Including impacts on labour supply, consumption spending, financial markets, government expenditure and trade.

limitations in low interest rate environments (Bernanke et al. 2019; Borio and Gambacorta 2017) and how recent extension of financial policy mandates to cover more complex risks (Giuzio et al. 2019) may manifest in practice.

The results presented in this chapter show that that macroeconomic conditions and policy interactions appear to matter more than countries' number of Covid-19 cases. The level of government indebtedness came out as a significantly positive determinant of fiscal stimulus. Policy interaction also matters, but merely between financial policies – social restrictions do not influence fiscal or prudential policy. In addition, unconventional policy measures support expansionary fiscal policy measures and loosening of prudential policy measures. The European institutional context of coordination and joint decision making in fiscal, monetary and prudential policy likely influence these results. Finally, it seems private initiatives such as moratoria or eased lending standards potentially substituted fiscal stimulus as the pandemic entered its second wave in Europe.

The remainder of this chapter is outlined as follows: Sect. 1.2 provides an overview of the Covid-19 context and related policies, and presents the data and methodology that underlie the analysis; Sect. 1.3 analyses conditions that influence policy and how different policies interact; Sect. 1.4 concludes.

1.2 The Covid-19 Policy Context, Data and Methodology

1.2.1 The Covid-19 Policy Context

When observing policies relating to Covid-19 across countries, one is struck by the large variety in the number and types of measures across countries. There are also large differences in the measures' magnitudes. The US Fed has lowered its reference rate by 1.5 percentage and many other central banks have made similar cuts. Conversely, the ECB and Bank of Japan maintained their rates. The balance sheets of the latter are expected to increase to approx. 55% and 120% of GDP before the end of 2020, whereas the corresponding figures for the UK and Canadian central banks are around 35% and 20% respectively (Cavallino and De Fiore 2020). Macroprudential measures across the Eurozone will free up more than €20 billion of bank capital to absorb losses and support lending, but the distribution of this amount across countries vary (even after considering GDP). Similarly, in advanced economies, budgetary measures, funding facilities and credit guarantees together amount to a staggering average of 18.7% of GDP (Alberola et al. 2020). Chart 1.1 shows countries' Covid-19 cases. Chart 1.2 demonstrates how Covid-19 fiscal policy responses vary across Europe. Together, these charts illustrate the weak relationship between the magnitude of infected citizens and fiscal amounts spent.

This variety in policy responses raises questions on the determinants of policy makers' actions. Arguably, policy makers across the globe have faced relatively similar conditions for making policy decisions – A comparable and unparalleled
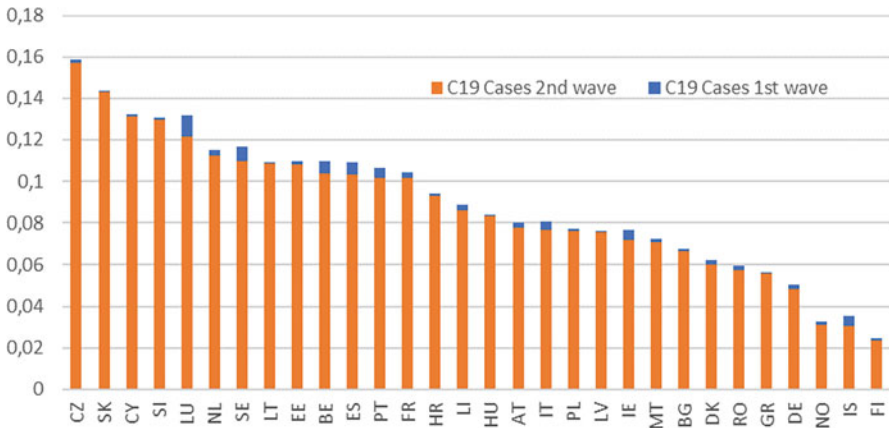
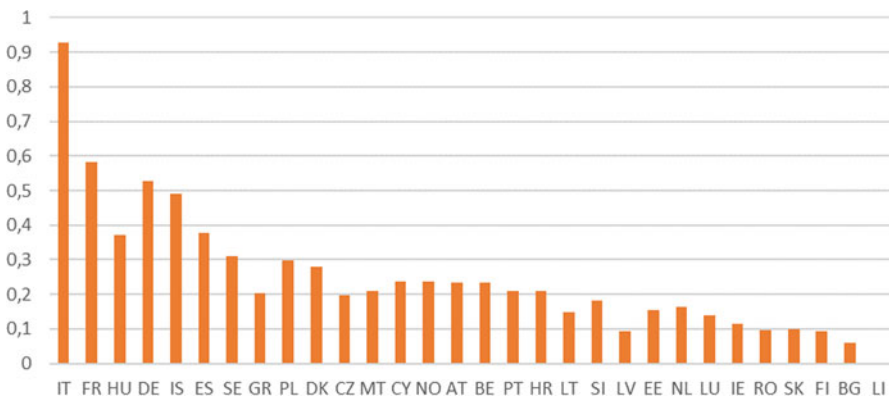**Chart 1.1** Covid-19 cases (% population). (Source: ECDC 2021)

Chart 1.2 Covid-19 fiscal policy responses (% GDP). (Source: ESRB 2021)

exogenous shock characterized by radical uncertainty on its transmission channels and magnitude of impact. Can empirical pandeconomics explain the large variety?

1.2.2   Data

To answer this question, cross-country policies and contextual factors were analysed in search of empirical patterns and relationship. These findings were subsequently interpreted using insights from theory, logic and prior research. Data was collected for 30 European countries (EU27, Iceland (IS), Lichtenstein (LI) and Norway (NO)), covering both policy stances and a range of variables suggested by prior research to matter for policy makers' responses.

The *policy variables* include both the financial space and the stringency of countries social regulations relating to the pandemic. Financial policy measures were constructed based on the ESRB's data on *Policy measures in response to the COVID-19 pandemic*.[3] Due to the little variation in conventional monetary policy across Europe, the data focuses on unconventional monetary policy measures. Thus, financial policies include all fiscal policies, unconventionary monetary policy tools and prudential measures reported. Social regulation is proxied by the composite COVID-19: Stringency Index (Hale et al. 2021). A variable that seeks to capture the role of private policy initiatives was also included. This includes example such as when credit institutions in Estonia agreed to harmonise terms and conditions for deferral period for households and non-financial enterprise in April 2020. *Macro variables* include government indebtedness, sovereign credit ratings, GDP-per-capita (GDP/capita) and domestic Covid-19 cases. Table 1.1 presents all variables used in the study and their sources.

1.2.3   Model Specifications and Summary Statistics

The empirical investigation used a standard econometric approach that is common to the research field of explaining financial policy responses. Patterns of interaction between the above policy and contextual variables were analysed using regression analysis. Such regression analysis reveals any relationships by distinguishing reliable ("statistically significant") patterns from insignificant ones. Moreover, the statistically significant coefficients provide important cues on the relationships between variables; both by displaying the direction of the relationship (i.e. whether it is positive or negative) and the strength of the relationship (i.e. how variation in the independent variables influence the dependent variable).

In more technical terms, the determinants of policy responses and interactions were estimated using the following specification:

(a) $Fiscal_i = \alpha_0 + \alpha_{i1} \times Policy_{i1} + \ldots \ldots + \alpha_{in} \times Policy_{in} + X_i \, \beta + e_i$
(b) $Prudential_i = \alpha_0 + \alpha_{i1} \times Policy_{i1} + \alpha_{in} \times Policy_{in} + X_i \, \beta + e_i$

The dependent variable in specification is a) aggregate fiscal spending to GDP; and b) # of domestic prudential measures. Country-level macro variables – debt-to-GDP, credit rating, GDP-per-capita and Covid-19 cases – are included in vector Xi. Tables 1.3, 1.4, 1.5, and 1.6 in the next section present results from estimating different variants of the models, where the combinations of policies and country level variables are included (standard errors in parenthesis). Robust standard errors were applied in all variants to counter heteroskedasticity.

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[3] The policy data is available on: https://www.esrb.europa.eu/home/coronavirus/html/index.en.html. Policy measures by European Authorities (EBA, ESMA, EIOPA, ESRB, ECB, FATF) were omitted.

Table 1.1 Variables definitions and sources

Name	Description	Source
Policy variables		
Fiscal policy (*Fiscal*)	Combined volume in relation to end 2019 GDP of direct and off-budget post (direct grants, moratoria, tax deferrals and reliefs classified as fiscal policy by authorities).	ESRB (2021) Policy measures in response to the COVID-19 pandemic: https://www.esrb. europa.eu/home/search/ coronavirus/html/index.en.html
Prudential pol. (*Prudent*)	# measures classified as microprudential or macroprudential policy such by authorities.	
Unconv. mon. pol. (*Unconv mon.*)	# measures classified as asset purchase programs, credit or liquidity facilities by central banks.	
Social policy (*Social*)	Covid-19: Stringency Index – a composite measure between 0 and 100 (100 = strictest) based on 9 indicators incl. school/workplace closures and travel bans.	Global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker). https://doi.org/10.1038/ s41562-021-01079-8
Private policy (*Private*)	# measures of prudential or fiscal nature (i.e. moratoria) by industry associations and initiatives by other private actors.	ESRB Policy measures in response to the COVID-19 pandemic
Macro variables		
Debt-to-GDP (*Gov debt*)	Gross debt of the general government as a percentage of GDP.	OECD General government debt: https://data.oecd.org/gga/general- government-debt.htm
Credit rating (*CreditR.*)	Credit rating reflecting the credit worthiness of a country between 100 (riskless) and 0 (likely to default).	Trading economics: https:// tradingeconomics.com/country- list/rating?continent=europe
GDP-per-capita (*GDP/capita*)	GDP per capita in PPS	Eurostat: https://ec.europa.eu/ eurostat/databrowser/view/ tec00114/default/table?lang=en
Covid-19 Cases (*C19 Cases*)	Cumulative confirmed Covid-19 cases in relation to population.	European Centre for Disease Prevention and Control (ECDC) (2021) Epidemic intelligence: https://www.ecdc.europa.eu/en/ cases-2019-ncov-eueea

Note: CY and NO fiscal spending based on IMF (2021) due to inconsistencies in the reporting vis-à-vis other countries

Regressions are run on two different points in time – the first captures the situation at end July 2020 and the second until end August 2021. This seeks to capture the different conditions and interactions of the so-called first and second waves of the pandemic in Europe (Fokas and Kastis 2021; Bontempi 2021).

Table 1.2 provides summary statistics for conditions at the end of the first and second waves. The mean fiscal spending amounts to 11% of GDP by end of

Table 1.2 Descriptive statistics

Wave 1 variable	Mean	Median	S.D.	Min	Max
Fiscal	0.11	0.09	0.09	0.00	0.46
Unconvmon	5.77	6.00	3.18	0.00	16.00
Prudent	1.97	1.00	1.96	0.00	8.00
Private	1.10	0.50	1.35	0.00	4.00
CreditR	76.00	76.00	22.70	0.00	100.00
C19 Cases	0.00	0.00	0.00	0.00	0.01
Social	77.50	80.60	11.00	53.70	96.30
Wave 2 variable	Mean	Median	S.D.	Min	Max
Fiscal	0.14	0.12	0.10	0.00	0.47
Unconvmon	6.13	6.00	3.61	0.00	16.00
Prudent	4.53	4.50	2.90	0.00	11.00
Private	1.33	1.00	1.58	0.00	5.00
CreditR	76.00	76.00	22.70	0.00	100.00
C19 Cases	0.09	0.08	0.03	0.02	0.16
Social	44.70	42.10	9.79	28.70	64.30
Govdebt	72.40	65.50	43.60	0.01	201.00
GDP capita	108.00	94.00	45.90	55.00	266.00

the first wave, which increases to 14% at the end of the second. Unconventional monetary policies remain relatively constant over the two periods, whereas the use of prudential policy tools increase substantially in the second wave. In terms of macro variables, Covid-19 cases rose sharply in the second wave to amount to 9% the population on average, while – or perhaps as – the stringency of social restrictions decreased in overall the sample.

1.3 Results

1.3.1 Base Model

Table 1.3 shows how the different macro variables relate to Covid-19 fiscal spending measured in relation to GDP for both the first and the second wave. Columns A–D display univariate regressions for debt-to-GDP, credit rating, GDP-per-capita and Covid-19 cases respectively. Multivariate regressions covering all macro variables are reported in column E.

Government indebtedness is the only variable that displays any significant impact on spending; in the univariate regression for the second wave and in the multivariate regressions for both waves. The coefficients are relatively similar in all three cases, where one percentage point higher government debt-to-GDP is associated with around 1% higher fiscal spending. One standard deviation (43.2) increase in government debt from the average (108.1) is thus associated with

Table 1.3 Macro variables and Covid-19 fiscal spending

Dependent variable: Fiscal					
Wave 1	**A**	**B**	**C**	**D**	**E**
Const	0.037	0.128**	0.121***	0.083***	−0.031
	0.037	0.055	0.036	0.019	0.059
Govdebt	0.001*				0.001*
	0.001				0.001
CreditR		0.000			0.001
		0.001			0.001
GDPcapita			0.000		16.092
			0.000		9.818
C19Cases				11.052	−0.001
				7.332	0.000
N	30.000	30.000	30.000	30.000	30.000
Adjusted R2	0.206	−0.033	−0.034	0.041	0.238
Wave 2	**A**	**B**	**C**	**D**	**E**
Const	0.048	0.194***	0.173***	0.176***	0.059
	0.031	0.051	0.037	0.048	0.072
Govdebt	0.001**				0.001
	0.001				0.001**
CreditR		−0.001			0.000
		0.001			0.001
GDPcapita			0.000		0.000
			0.000		0.000
C19Cases				−0.458	−0.360
				0.424	0.444
N	30	30	30	30	30
Adjusted R2	0.277	−0.003	−0.009	−0.010	0.216

Note: */**/*** denote significance at 10%/5%/1% levels

around 50% higher Covid-19 fiscal expenses. This finding corresponds to those of Benmelech and Tzur-Han (2020) both in terms of direction and magnitude. It counters conventional wisdom that suggests that it is easier for counties with lower levels to provide fiscal stimulus to compensate for reductions in private spending (Davig and Leeper 2011; Romer and Romer 2017). Other results are somewhat mixed in relation to other prior studies (Romer and Romer 2021). The insignificance of Covid-19 cases is similar, but the absence of significant effects for credit ratings differs (Romer and Romer 2021; Benmelech and Tzur-Han 2020). This suggests that notions that market access is more important than debt-levels do not apply in the European context.

1.3.2 Public Policy Interactions

Table 1.4 examines interactions between Covid-19 related policies, again covering both the first and the second wave. The only significant macro variable (Government indebtedness) from Table 1.3 is maintained for control purposes. The dependent variable is still fiscal spending to GPD, and columns A-C examines the interactive effect from social, unconventional monetary and prudential policy. Column D provides the results from regressing the combined effect of the latter two. Government debt remains significantly correlated with fiscal spending, but this also applies to unconventional monetary policy. The effect remains in both the first and second waves with a magnitude of around 0.005. This implies that each additional unconventional monetary policy tool applied by central bank increases fiscal spending with half a percentage point. One standard deviation in the number of unconventional monetary policy tools (3.15) is thereby associated with 1.5%

Table 1.4 Public policy impact on Covid-19 fiscal spending

Dependent variable: Fiscal				
Wave 1	**A**	**B**	**C**	**D**
Const	0.089	0.012	0.042	0.018
	0.115	0.036	0.040	0.039
Govdebt	0.001***	0.001	0.001	0.001*
	0.000	0.001	0.001	0.001
Social	−0.001			
	0.002			
Unconvmon		0.005**		0.005*
		0.002		0.002
Prudent			−0.007	−0.007
			0.006	0.006
N	30	30	30	30
Adjusted R2	0.184	0.204	0.195	0.191
Wave 2	**A**	**B**	**C**	**D**
Const	−0.037	0.021	0.023	0.010
	0.056	0.030	0.036	0.034
Govdebt	0.001	0.001**	0.001**	0.001**
	0.001	0.001	0.000	0.001
Social	0.002			
	0.002			
Unconvmon		0.005*		0.004
		0.003		0.003
Prudent			0.006	0.004
			0.005	0.006
N	30	30	30	30
Adjusted R2	0.293	0.288	0.286	0.277

Note: */**/*** denote significance at 10%/5%/1% levels

higher fiscal spending. This effect may suggest that while the unconventional policy measures are expansionary policy measures, they also reduce debt servicing and facilitate taking on additional debt. Monetary and fiscal policy appears to complement rather than substitute each other in this respect.

Column B, which regresses the combined effect of government debt and unconventional policy measures also has the highest predictive ability of the variation in fiscal spending (adjusted R2 amounts to 0.2). The correlation between social and prudential policy, on the other hand, are not significant – neither in the first nor second waves. Although insignificant, it is however notable that in the first wave, both social and prudential policy are negatively correlated with fiscal spending. That does not corroborate arguments that strict social regulation is necessary in pandemics to prevent surges in cases associated with fiscal stimulus (Romer and Romer 2021). Further, the negative correlation between easing of prudential requirements and fiscal spending could suggest that prudential policymakers maintain tougher policy stances in more expansive fiscal environments, as risk taking may increase in the financial system as a side effect.

Table 1.5 reports the results from regressing government indebtedness and other policy stances on prudential policy. The only significant effect is for the second Covid-19 wave, where unconventional policy initiatives are positively related to prudential policy measures. The coefficient is around 0.3 which implies that one standard deviation of unconventional policy implies a reduction of active prudential policy tools by one. This suggests that expansionary monetary policy is not perceived to lead to excess risk taking in the financial sector that warrants any prudential policy tightening. There are no effects when adding social policy (unreported in Table 1.5).

Table 1.5 Interaction of unconventional monetary and prudential policy

Dependent variable: Prudent				
	Wave 1		Wave 2	
	A	B	C	D
Const	0.733	0.821	4.073 ***	2.474 *
	0.728	1.028	1.158	1.392
Govdebt	0.017 **	0.017 **	0.006	0.004
	0.008	0.008	0.014	0.012
Unconvmon		−0.017		0.294 *
		0.102		0.161
N	30	30.000	30	30
Adjusted R2	0.114	0.082	−0.026	0.078

Note: */**/*** denote significance at 10%/5%/1% levels

1.3.3   Public-Private Policy Interactions

Prior research indicates that private actors play important roles in financial policy. Private policy actors and networks often engage in voluntary self-regulation to pre-empt formal regulation (Mattli and Woods 2009; Milner and Moravcsik 2009; Bengtsson 2013, 2020). The analysis of how private policy initiatives influence formal Covid-19 policies is based on a hypothesis that policy initiatives in the private and public spheres influence one another. Table 1.6 shows that this indeed is the case. The top rows show regressions results where Prudential policy is the dependent variable, and the lower rows three Fiscal policy. For both dependent variables, the number of private policy initiatives is used as independent variables (column A), as well as in combination with unconventional monetary (columns B and E) and social policy (columns C and F). Again, regressions are run on the conditions at the end of both the first and second waves.

Table 1.6 Interactions between private and public policy

Dependent variable: Prudent	Wave 1			Wave 2		
	A	B	C	D	E	F
Const	0.816	0.800	−0.454	4.097 ***	2.508 *	2.774
	0.721	1.052	1.910	1.175	1.466	2.349
Govdebt	0.009	0.009	0.007	0.009	0.005	0.004
	0.007	0.007	0.009	0.015	0.015	0.018
Private	0.436 *	0.438 *	0.431 *	−0.176	−0.085	−0.119
	0.221	0.234	0.224	0.405	0.447	0.409
Unconvmon		0.003			0.290 *	
		0.104			0.169	
Social			0.018			0.037
			0.032			0.063
N	30	30	30	30	30	30
Adjusted R2	0.146	0.113	0.123	−0.056	0.044	−0.086
Dependent variable: Fiscal	Wave 1					
	A	B	C	D	E	F
const	0.036	0.012	0.088	0.049	0.022 **	−0.035
	0.036	0.037	0.096	0.032	0.032	0.065
Govdebt	0.001 **	0.001 *	0.001 **	0.001	0.001	0.001
	0.001	0.001	0.001	0.000	0.000	0.001
Private	−0.004	−0.002	−0.004	−0.004 **	−0.003 *	−0.001
	0.015	0.015	0.015	0.010	0.010	0.010
Unconvmon		0.005 **	−0.001		0.005	0.002
		0.002	0.001		0.003	0.002
N	30	30	30	30	30	30
Adjusted R2	0.179	0.174	0.154	0.254	0.262	0.266

Note: */**/*** denote significance at 10%/5%/1% levels

The patterns for how private policy initiatives correlate with prudential and fiscal policies are diametrically opposed. For prudential policy, private policy initiatives are positively related in the first wave. In the second wave, the effect disappears. This could suggest that in countries where the gravity and uncertainty in the initial wave induced policy responses from both private and public actors. Alternatively, private initiatives could be pre-emptive measures by private actors in expectations of policy responses from the prudential regulator.

For fiscal policy, there is no significant correlation in the first wave, but a significant – albeit small – negative one in the second wave. Here, each private policy initiative is associated with around half a percentage point less fiscal spending. This could potentially result from policy substitution between private and public policy, where private initiatives such as moratoria or eased lending standards substitute expansionary fiscal policy.

1.4   Discussion

This chapter represents a rare empirical contribution to research on how policies interact in response to exogenous shocks; a field hitherto dominated by conceptual and theoretical discussion.[4] The analysis of European policy responses to the Covid-19 pandemic displays the complexity faced by policymakers – visible in this chapter's sometimes surprising results that differ from those of prior research.

One key finding is that macroeconomic conditions and policy interactions appear to matter more than the severity of crisis. The empirical analysis shows that there is no relation between countries' fiscal responses to the number of Covid-19 cases. In contrast, what matters more is the level of government indebtedness, which came out as a significantly positive determinant of fiscal responses for both the first and second wave. The effect higher debt levels have on fiscal spending is positive, which contrasts conventional wisdom, but corresponds to other recent *pandeconomics* research. However, this prior research has showed that the most important explanatory factor of fiscal spending is countries' credit ratings. This chapter demonstrates no such effect. This suggests that the notions that market access is more important than debt-levels do not apply in the European context. This could be the result of investors' being comforted by regional common macroeconomic rules and procedures, a relaxing of budgetary rules and state aid restrictions, but more importantly the European Council's Next Generation EU – an unprecedented fiscal package adopted by in summer 2020.[5] Credit ratings may

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[4] C.f. Reis (2021). An exception is Bengtsson (2021).

[5] The Next Generation EU (NGEU) fund is a European Union economic recovery package to support member states adversely impacted by the COVID-19 pandemic. Agreed to by the European Council on 21 July 2020, the fund is worth €750 billion. The NGEU fund will operate from 2021–2023. It will be tied to the regular 2021–2027 budget of the EU's (MFF). The comprehensive NGEU and MFF packages are projected to reach €1824.3 billion.

matter less when national fiscal policy is accompanied by EU-wide stimulus funded by jointly issued debt. However, this may create expectations that future crises will be solved by mutual borrowing. This in turn may give rise to policy issues from moral hazard by individual Member States.

Another key finding relates to policy interaction. The results in this chapter clearly show that it matters, but it seems to be confined to financial policy interaction; social restrictions do not influence fiscal or prudential policy. This is somewhat surprising since without appropriate public health measures, stimulating aggregate demand would probably increase Covid-19 cases and thereby counteract the policy intentions of the stimulus. This argument that strict social regulation must accompany fiscal stimulus to avoid surges in infections (e.g. Romer and Romer 2021) does not seem to hold in Europe. More expected is perhaps that unconventional policy measures are support expansionary fiscal policy measures, although these policy options conceptually could act as substitutes. Expansionary monetary policy, by pushing down interest rates, also reduces debt servicing, facilitate taking on additional debt and provide conditions for further fiscal stimulus. For Eurozone countries, ECB effectively provided a monetary backstop to government debt in this fashion.[6] Again, moral hazard issues may follow from such backstops which create future policy challenges relating to budgetary discipline.

When the use of prudential tools were added to the policy mix, unconventional policy initiatives became positively related to prudential policy measures in the second Covid-19 wave. Two very different argument could potentially explain this finding. One is that expansionary monetary policy was not perceived by policy makers to cause any excess risk taking in the financial sector, and thereby warrant maintained or toughened prudential stances. The other is that policy confusion, uncertainty about the outlook or political economy constraints prevented authorities to maintain or tighten the prudential policy stance.[7] Even before the pandemic downturn, policy discussions highlighted the need for a clear and common understanding of crisis conditions to find common ground and coordinate between different policy areas.[8] Political economy constraints at the national level may also hinder prudential authorities to impose policies that in part may counteract fiscal policy.[9] Again, the particular European context may also matter- prudential authorities in the EU are required to seek approval from the Council of the EU for using (and potentially relaxing) particular instruments, and where ECB plays a decisive role for number of macroprudential instruments for Eurozone countries.

The third key finding relate to how public and private policy interacted in the pandemic. Private policy initiatives were positively related to prudential policy loosening in the first wave, and negatively to fiscal policy in the second wave. This could suggest that in countries where the gravity and uncertainty in the initial wave

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[6] See, for instance, Bartsch et al. (2020).

[7] See for instance Dehmej and Gambacorta (2019); Blanchard et al. (2010); Galati et al. (2011).

[8] See Osinski et al. (2013).

[9] See Bengtsson (2021).

induces policy responses from both private and public actors. As uncertainty fell as the pandemic continued, policy substitution may have occurred between private and public policy, where private initiatives such as moratoria or eased lending standards potentially substituted fiscal stimulus. This is in line with prior research that demonstrates that private policy actors and networks often engage in voluntary self-regulation to pre-empt formal regulation (e.g. Mattli and Woods 2009; Milner and Moravcsik 2009; Bengtsson 2013, 2020).

There are many potential extensions of this research that could shed additional on the policy conundrums highlighted above. One is to apply more fine-grained approaches to quantify differences in prudential and monetary policy stances to the analysis. One could also seek to better understand how other types of regional policies at the EU level influence policy responses in Member States. Another is to include additional factors – such as vaccination rates, unemployment rates and capex spending – and empirically investigate how and why policy stances evolve as the recovery takes hold. Whenever that happens.

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