



WILL IT STAY OR WILL IT GO?

ANALYSING DEVELOPMENTS IN TELEWORK DURING COVID-19 USING ONLINE JOB POSTINGS DATA

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Motivation

☰ Sections

The Brussels Times

MAIN NEWS

Masks reintroduced indoors, teleworking encouraged

Masks will again be mandatory inside shops and other indoor public spaces, Prime Minister Alexander De Croo announced in a press conference on Tuesday. The rules for using the Covid Safe Ticket (CST) will also be standardised across Belgium and, where possible, teleworking will be encouraged. “The Consultative Committee met early today. Nobody can ignore [...]

Oct, 26

Coronavirus pandemic [+ Add to myFT](#)

Austria and Netherlands set out stringent curbs to control Covid-19

Vienna targets unvaccinated and Dutch impose nationwide lockdown measures as infections surge

Other measures will include teleworking for all sectors where possible, a limit of four guests per household, no spectators at sporting events and the reimposition of 1.5m social distancing in public spaces.

Important questions:

- Will telework stick after Covid-19?
- What is the role of policy in the transition to telework?



Contributions

Focus: **Advertised telework** => captures expectations on future of work

Data: **Broad** (20 countries), **detailed** (55 sectors), **high-frequency** (monthly)

Findings:

1. Telework to stay at **permanently higher** levels after pandemic
2. **Digital preparedness** magnifies pandemic effect on telework adoption



DATA AND STYLISTED FACTS



Advertised telework ([Indeed](#))

- 20 OECD countries, January 2019-September 2021
- Overall number of job postings and share advertising telework

Pandemic

- Oxford Covid-19 government response stringency index
- Google mobility data
- Incidence of Covid-19 fatalities

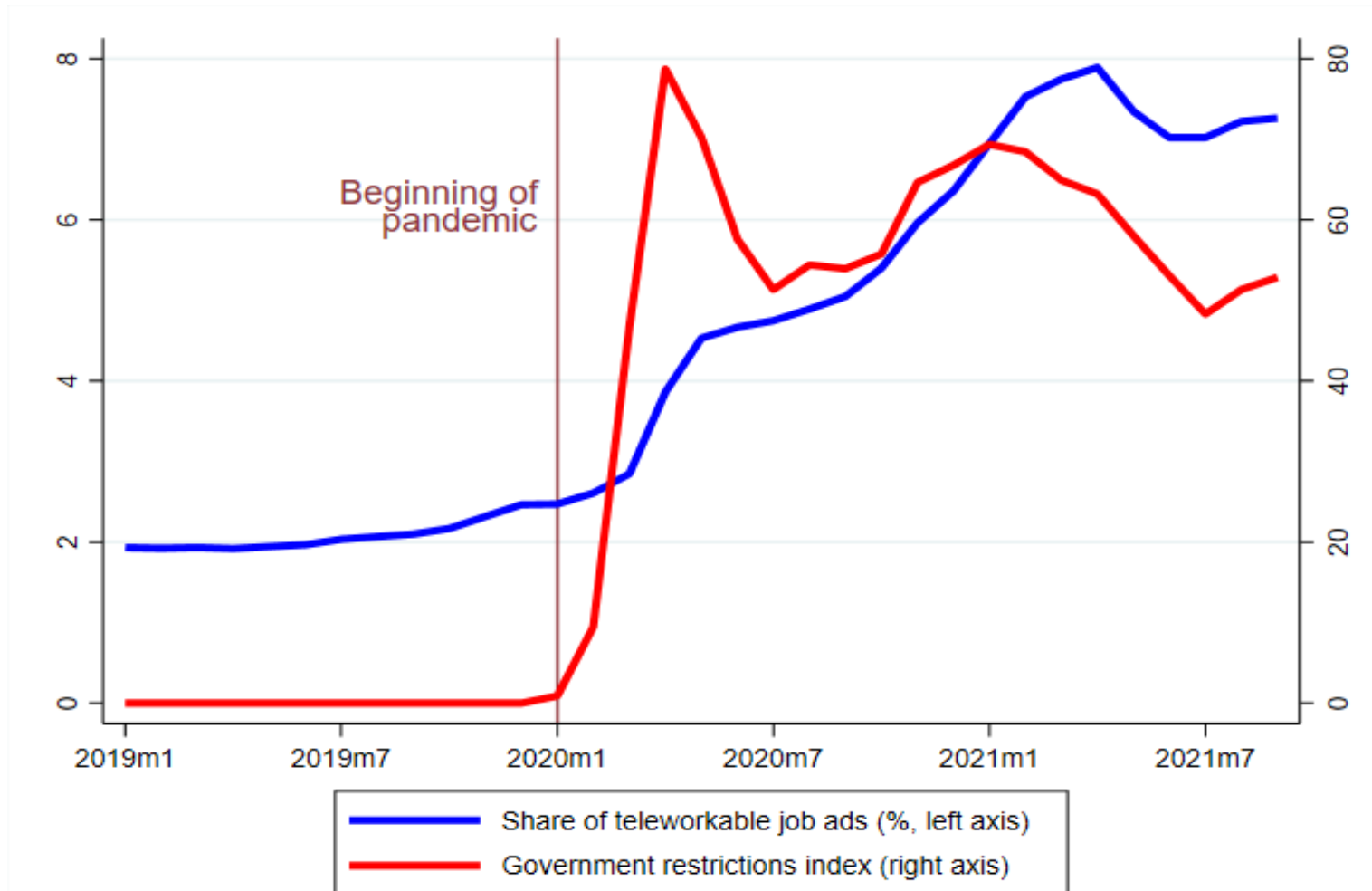
Digital preparedness

- Country-level: broadband penetration rate
- Sector-level: share of jobs that can be carried out digitally



Fact 1: Advertised telework has tripled during pandemic

Share of teleworkable job postings and government restrictions index, average country

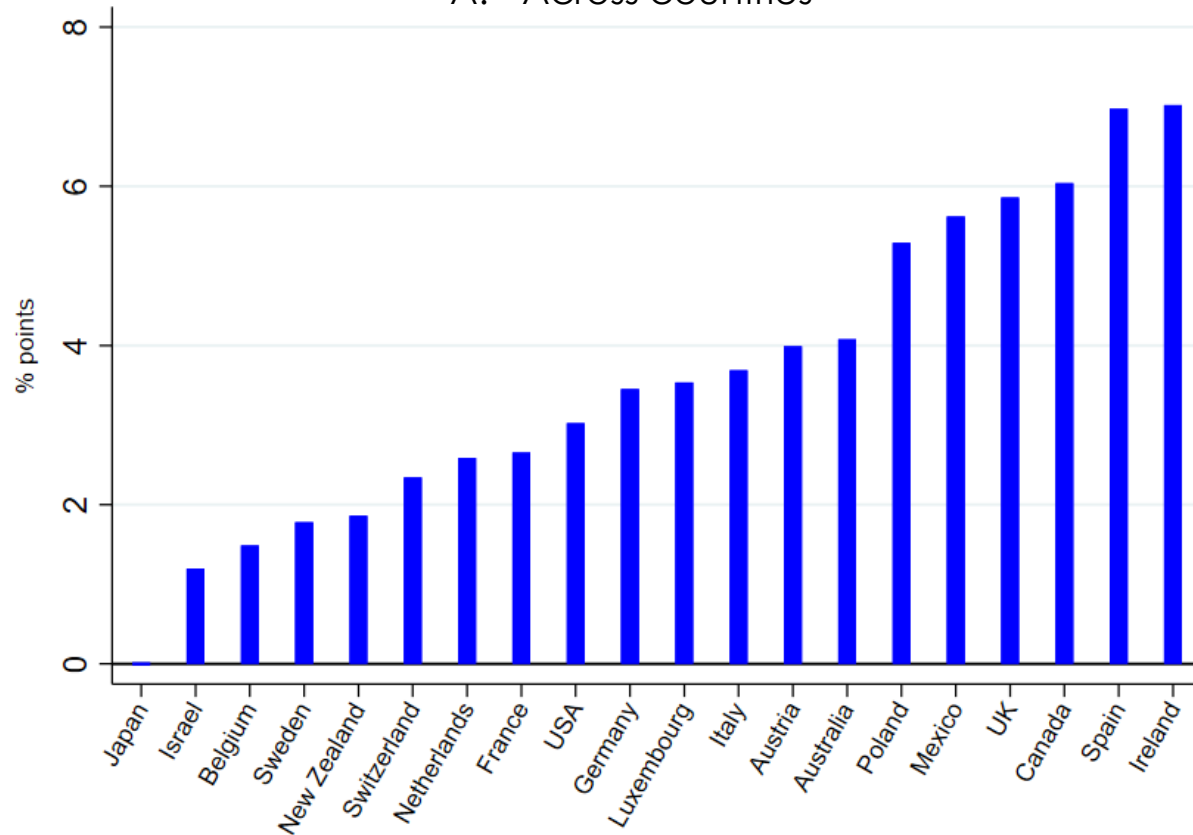




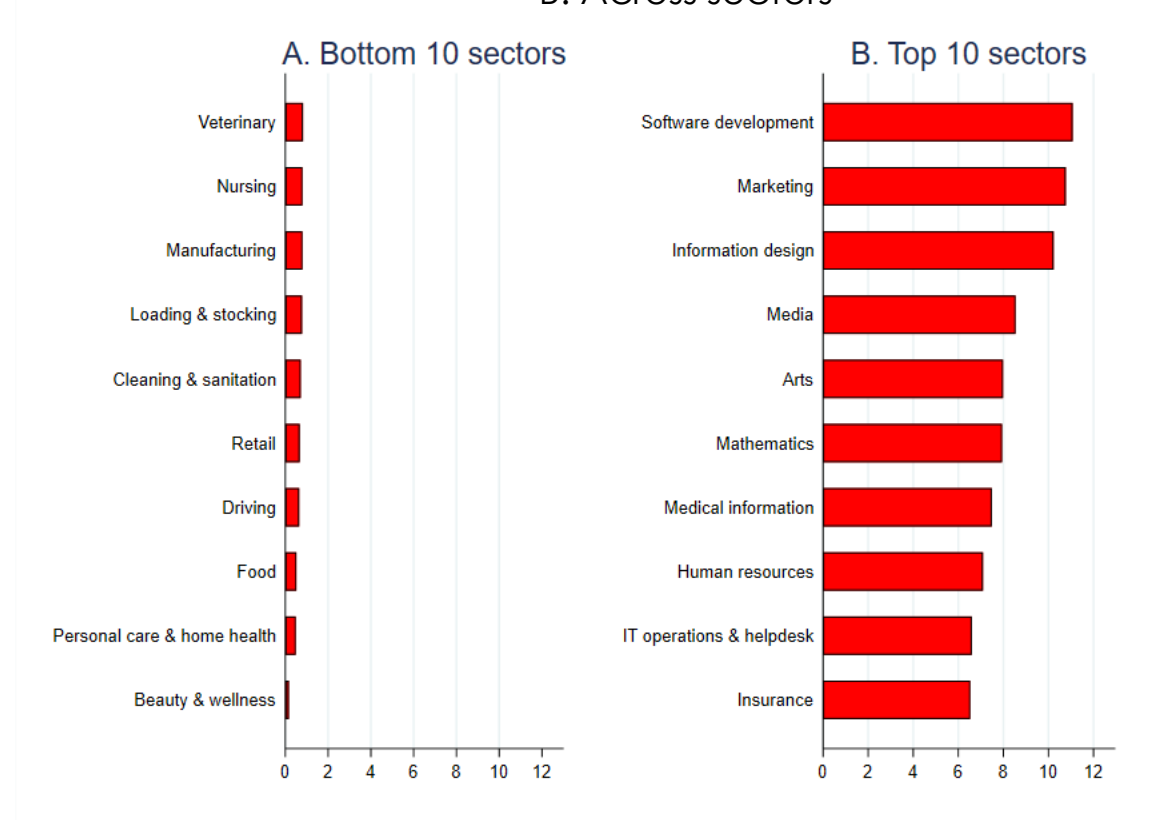
Fact 2: Large heterogeneity

Change in advertised telework (pandemic vs. pre-pandemic mean)

A. Across countries



B. Across sectors



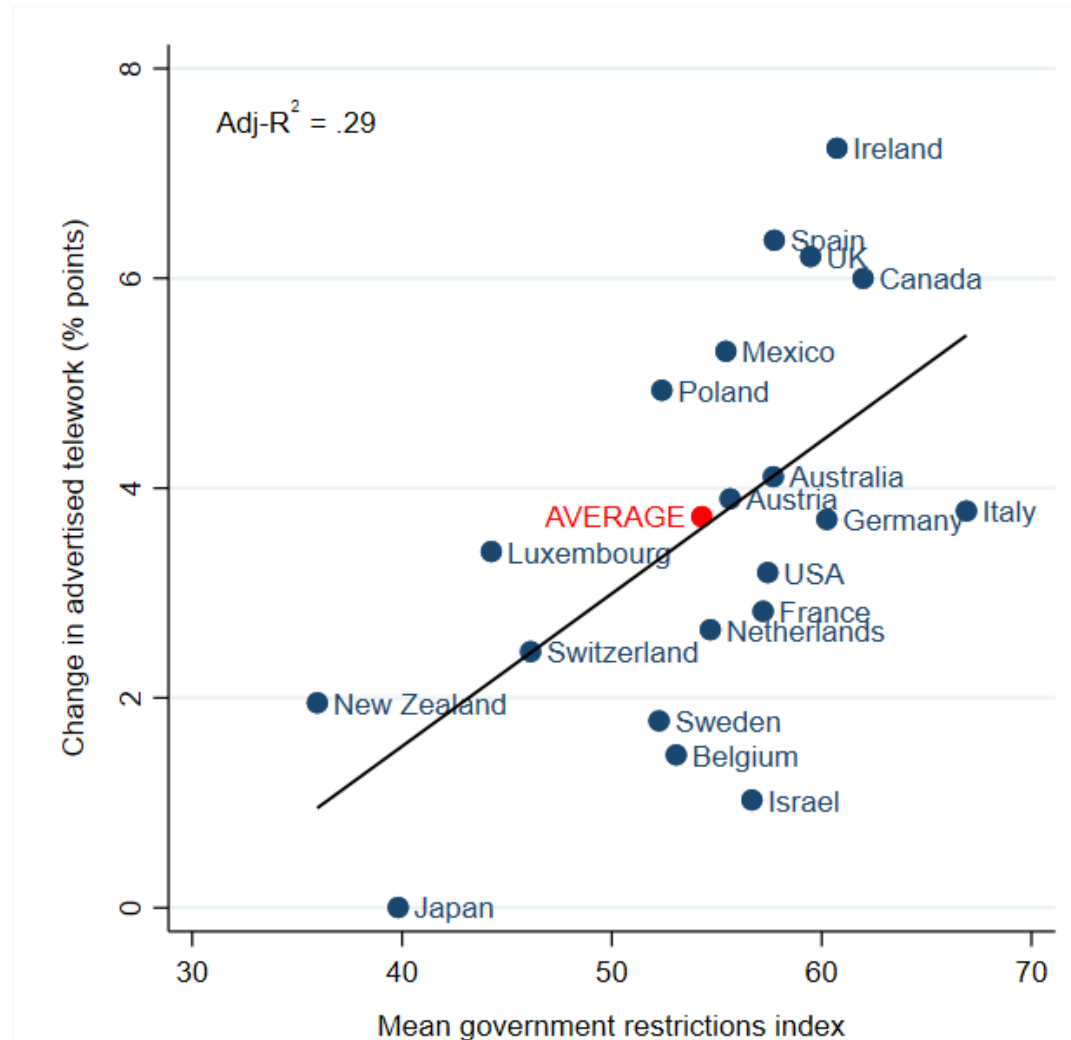


DRIVERS OF TELEWORK ADOPTION



Restrictions strongly associated with telework adoption across countries

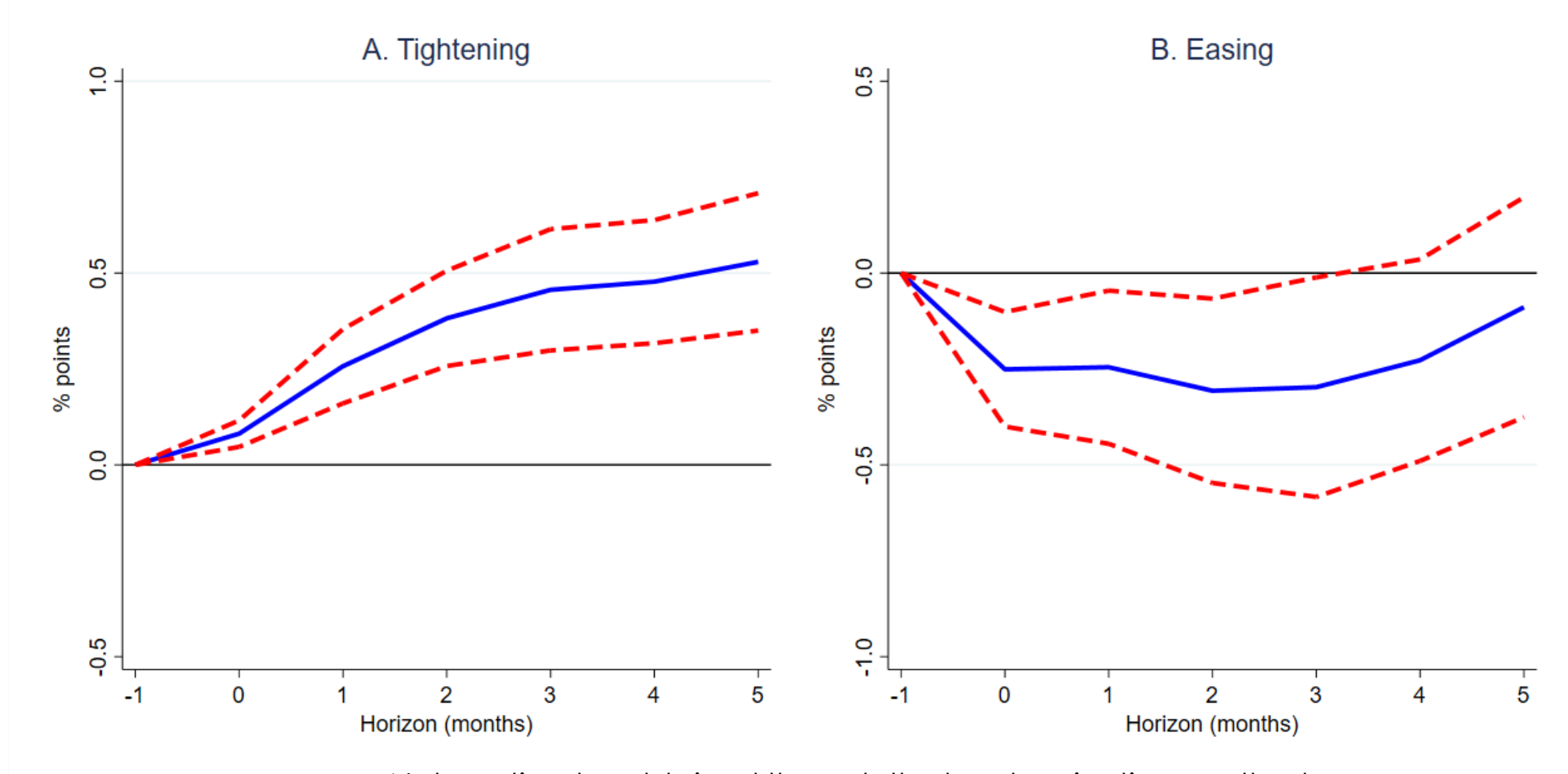
Government restrictions index and change in advertised telework (pandemic vs pre-pandemic mean)





Within countries, tightening restrictions strongly increases telework, but easing them only weakly decreases it

Estimated response of advertised telework to a 1-standard deviation change in government restrictions

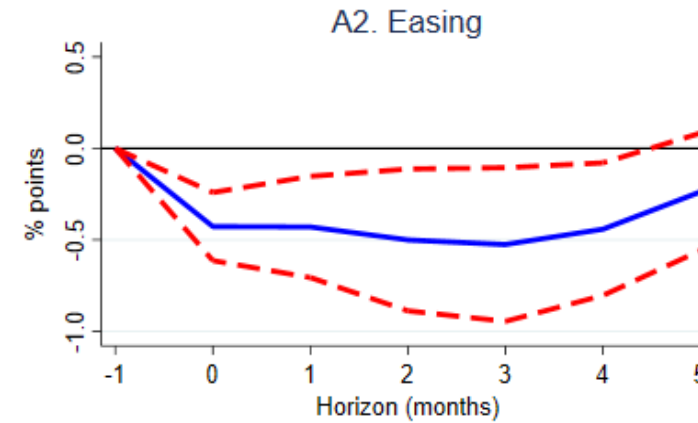
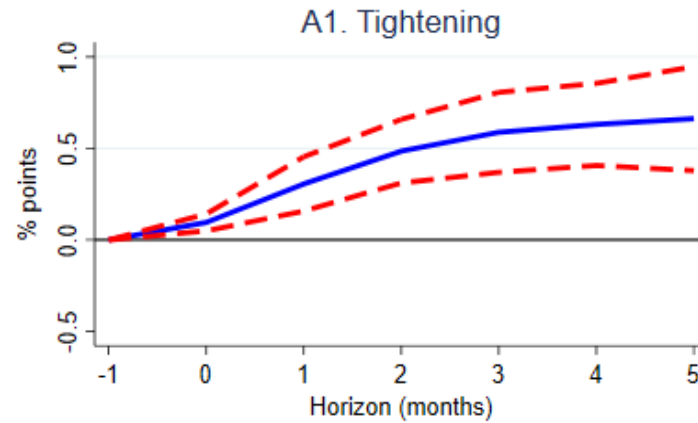


Note: estimates obtained through the local projections method.
Blue solid lines denote point estimates, red dashed lines are 90% confidence bands

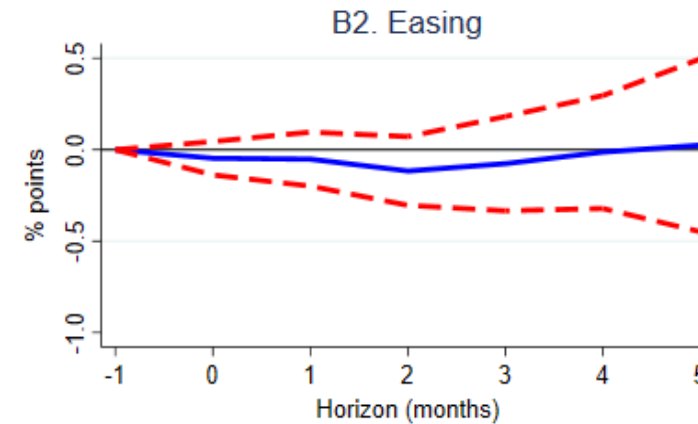
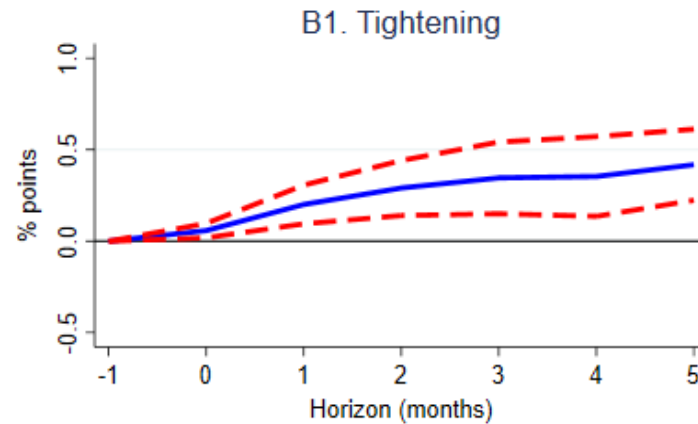


No effect from easing restrictions in digitally prepared countries, suggesting even more permanent effects there

A. Low broadband penetration rate



B. High broadband penetration rate





Results are similar when using alternative specifications

Effects of restrictions robust to controlling for pandemic severity

- When estimated jointly, restrictions & fatalities have similar effects

Decreases in mobility associated with sharp rise in telework

- Increase in mobility only weak effects

Importance of digital preparedness confirmed by sector analyses

- Diff-in-diff approach with country-time f.e.
- Larger effects in more digitally prepared sectors within same country

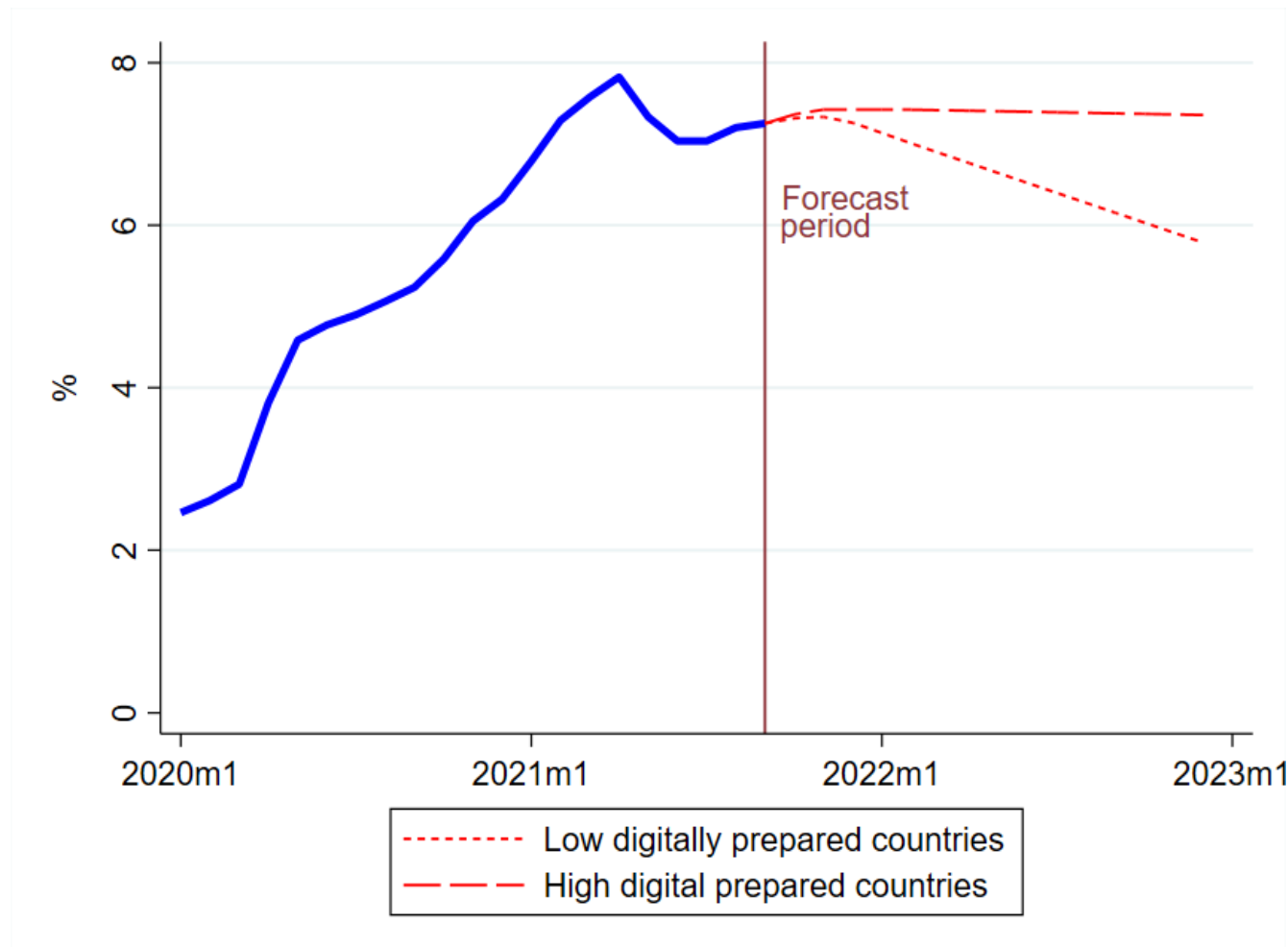


WRAP-UP



Telework is here to stay...

Predicted trends of advertised telework under scenario in which restrictions are eased by end-2022



Note: predictions obtained using estimated coefficients on effect of easing restrictions from slide 11



... policy needs to ensure everyone reaps its full benefits

Facilitate access to good digital infrastructure for all

Support adoption of modern managerial practices

Promote balanced labour relations



THE END

THANK YOU!



ANNEX



Telework keywords

Keywords for location (country-specific)	Country	Keywords for description (all countries)	
"Home Office"	AT		
"Werk van thuis"	BE	"Telearbeit"	"lavoro a distanza"
"Remoto"	BR	"Heimarbeit"	"lavoro in remoto"
"Télétravail"	FR	"home office"	"lavoro da remoto"
"Home Office"	DE	"homeoffice"	"lavoro da casa"
"Lavoro da casa"	IT	"home-office"	"lavorare remotamente"
"Remote"	IE	"mobiles office"	"lavorare da remoto"
"Télétravail"	LU	"mobiles arbeiten"	"da remoto"
"Werk van thuis"	NL	"von zu hause arbeiten"	"smart working"
		"von zuhause arbeiten"	"smartworking"
		"arbeiten von zuhause"	"テレワーク"
		"von zuhause aus"	"在宅ワーク"
		"work remotely"	"内職"
		"work from home"	"自宅での勤務"
		"working remotely"	"在宅型ワーク"
		"working from home"	"自宅から勤務"

"En remoto"	ES	"remote work teleworking"	"thuiswerken"
"Home Based"	GB	"remote work"	"Werken vanuit huis"
"Home Office"	CH	"teleworking"	"zdalna"
"Remote"	US	"telework"	"w domu"
"Remote"	CA	"telecommute"	"z domu"
"Remote"	AU	"telecommute"	"telepraca"
"Remote"	NZ	"telecommuting"	"praca zdalna"
"Remote"	SG	"work at home"	"trabalho remoto"
"Remote"	IN	"remote"	"100% remoto"
"Remote"	HK	"trabajo a distancia"	"trabalho de casa"
"zdalnie"	PL	"trabajo remoto"	"Teletrabalho"
"Desde casa"	MX	"teletrabajo"	"Trabalhar remotamente"
"Jobba hemifrån"	SE	"trabajo desde casa"	"arbeta på distans"
		"teletreball"	"arbete hemifrån"
		"trabajar desde casa"	"arbete på distans"
		"teletrabajar"	"arbete hemifrån"
		"teletrabaja"	"distansarbete"
		"tele-trabajar"	"Jobb på distans"
		"en remoto"	"Distansjobb"
		"télétravail"	"Jobba på distans"
		"travail à distance"	"Jobba hemifrån"
		"travail à la maison"	"Jobb på distans"
		"de la maison"	"Jobb hemifrån"
		"telelavoro"	"Distansjobb"
			"Arbeta på avstånd"



Data on other structural factors

- Management quality (country-level, World Management Survey Portal)
- Average numeracy skills of workforce (country-level OECD PIAAC)



Methodology: Local projections

- Direct estimation of impulse response functions (IRFs)
- For each $k=0,\dots,5$, estimate response of telework over $t+k$ horizon to change in restrictions at time t :

$$y_{i,t+k} - y_{i,t-1} = \mu_i + \beta^k \Delta x_{i,t} + \sum_{f=1}^k \varphi^f \Delta x_{i,t+f} + \sum_{l=1}^2 \sigma^l \Delta x_{i,t-l} + \varepsilon_{i,t}$$

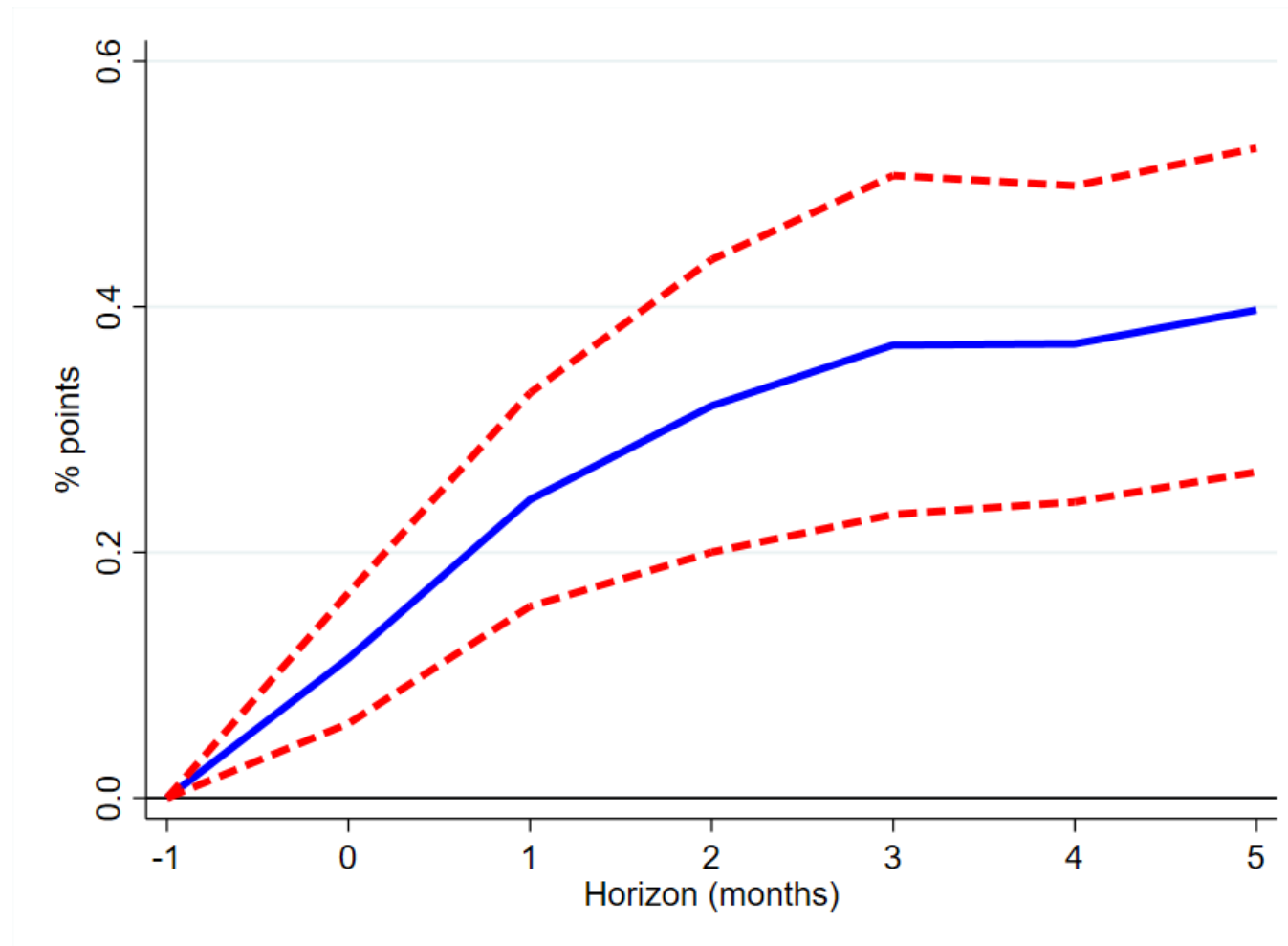


⇒ IRFs given by estimated β^k coefficients and their standard errors



Restrictions have sizeable & long-term effects

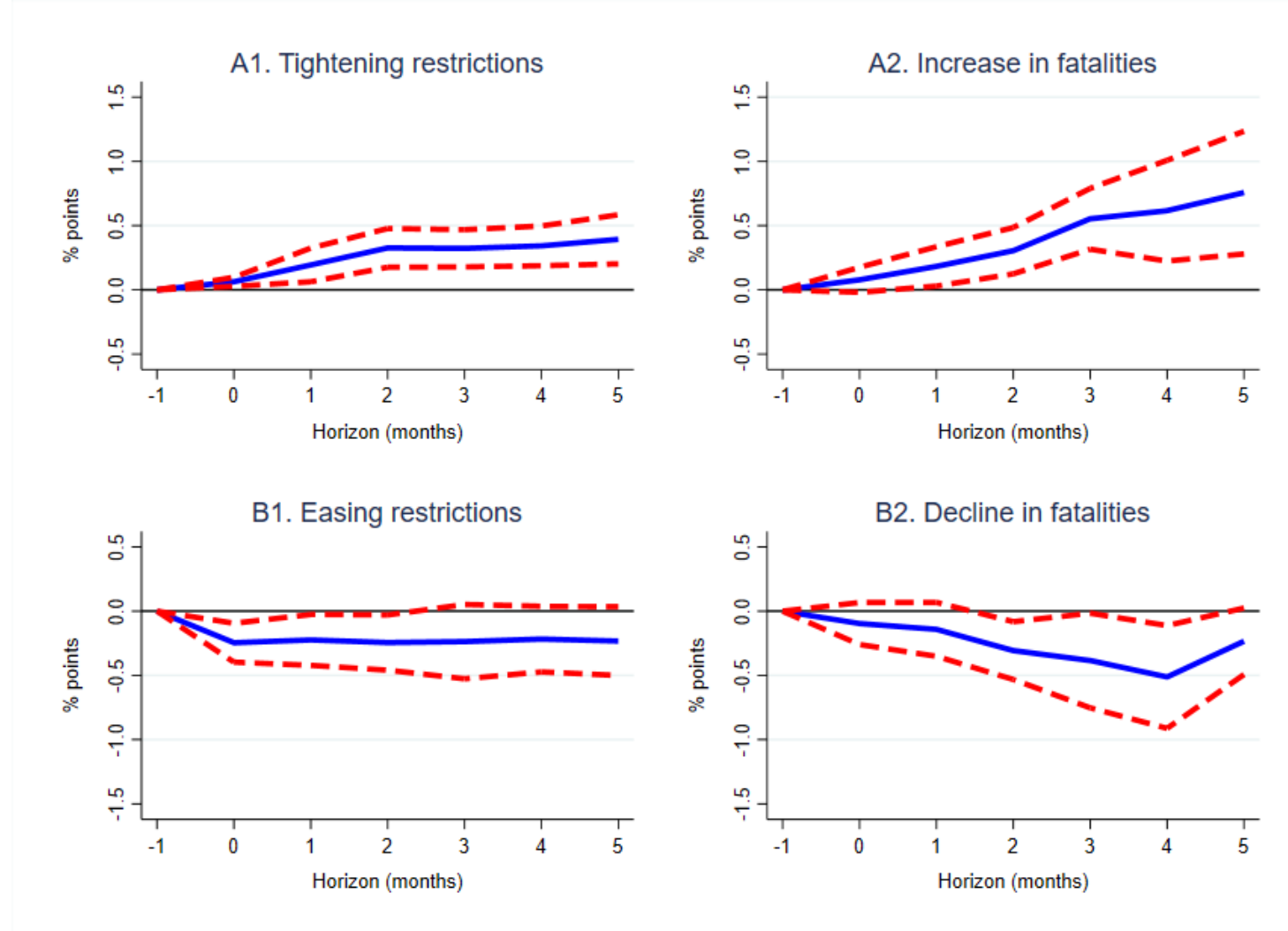
Response of advertised telework to a 1-standard deviation change in government restriction index





Similar effects of restrictions & pandemic severity

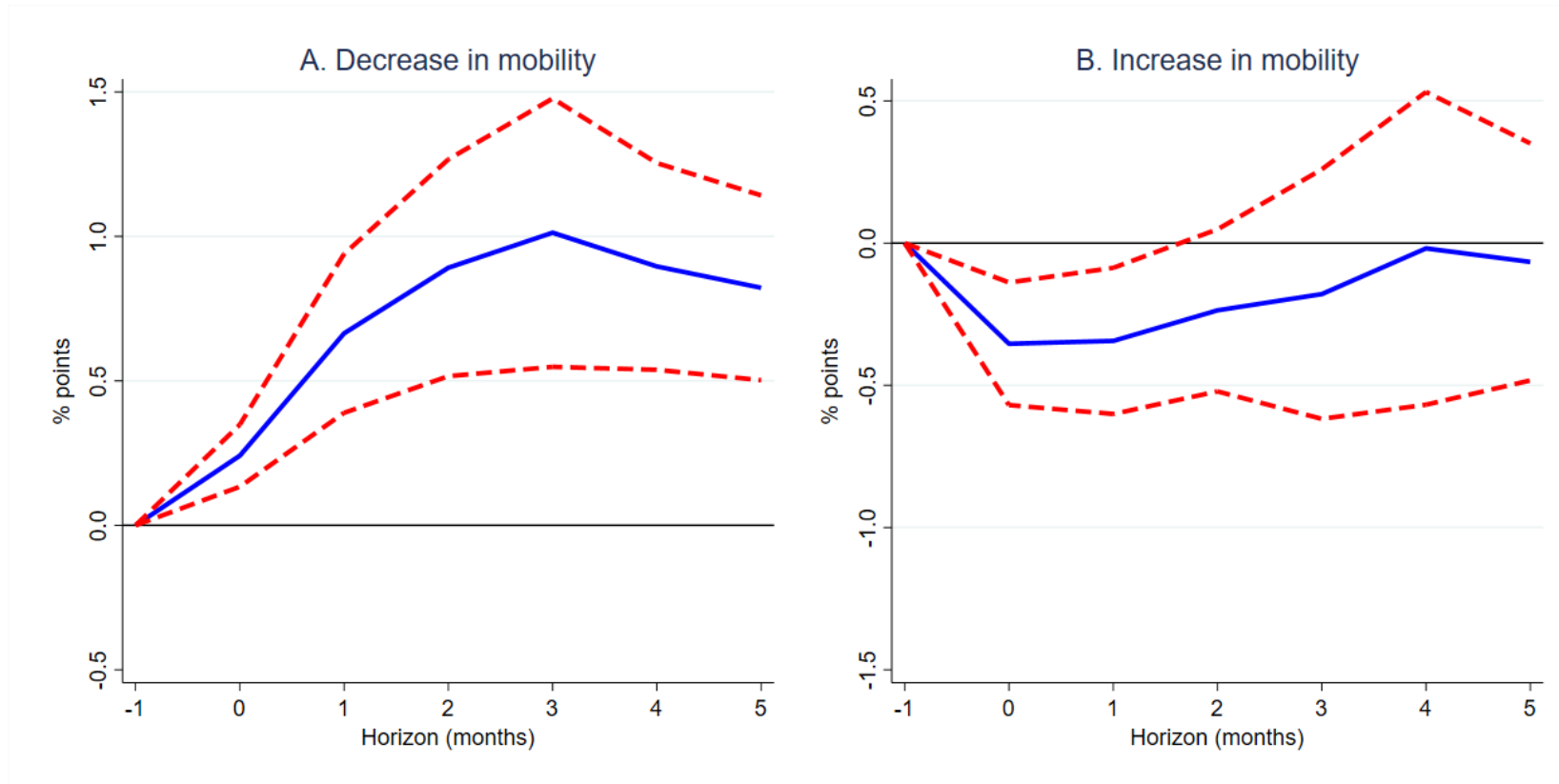
Effects of government restrictions and per capita COVID-19 fatalities on advertised telework





Similar results when using changes in mobility

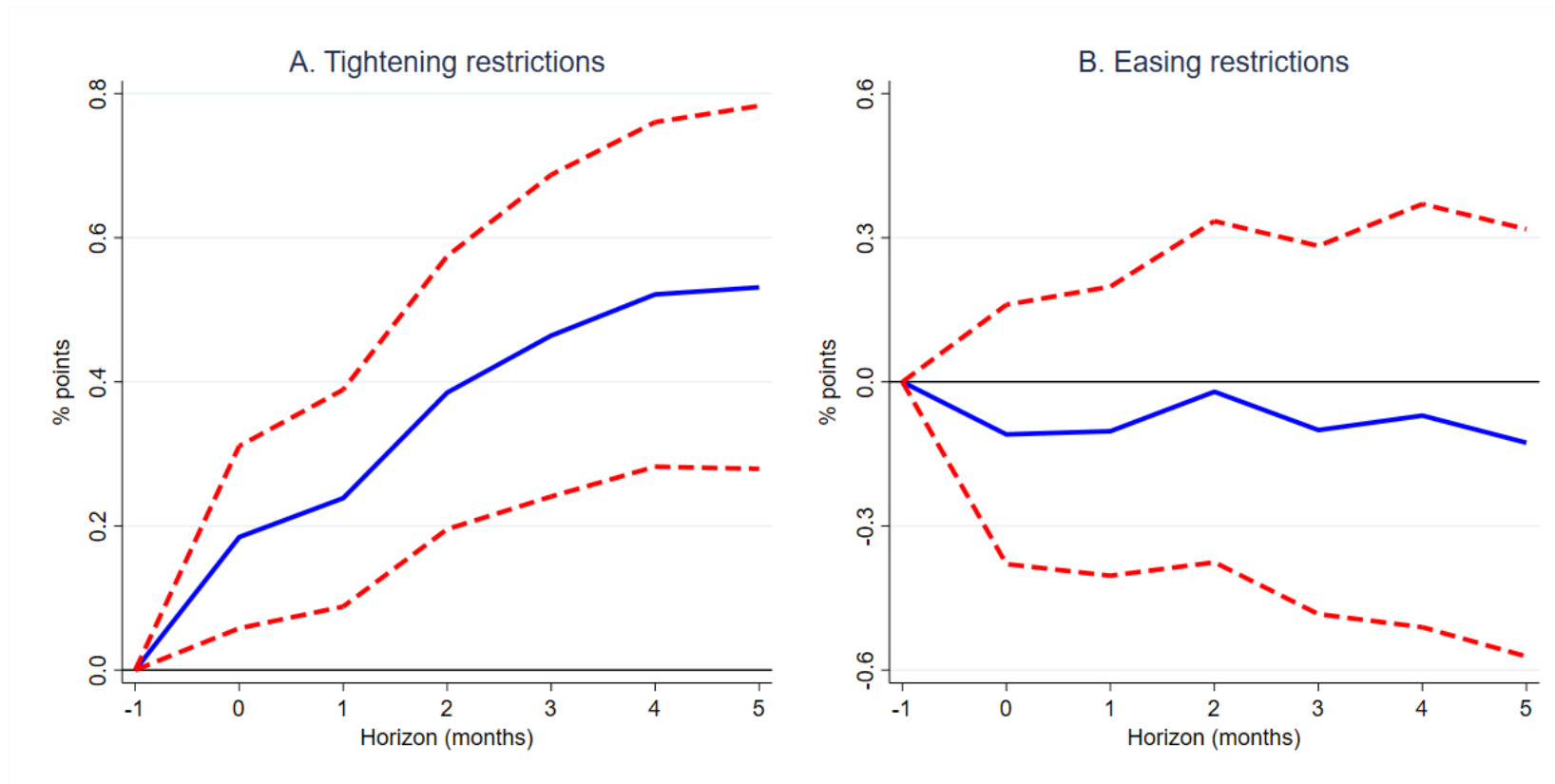
Effects of changes in people visits to shops, restaurants and other entertainment venues





Larger effects in more digitally prepared sectors within same country

Differential effects of changes in government restrictions between high and low digitally prepared sectors





Reasonably high in-sample fit

Actual and predicted level of advertised telework

