

# Emergency procurement and the Covid19 crisis: insights from Italian administrative data

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In this chapter, we provide descriptive evidence of how emergency procurement was conducted in response to the Covid19 pandemic in Italy. Our database includes the universe of public contracts and we use text analysis to detect those strictly related to emergency goods. We document a prompt reaction to the emergency with a marked shift in the types of acquisition procedures in favor of those characterized by higher speed and discretion, like negotiated procedures and direct awards. However, we find a decrease in the use of framework agreements, which are characterized by higher speed but not higher discretion.

The Covid19 pandemic was accompanied by extensive failures in government procurement of critical healthcare materials. Elements of this 'procurement crisis' occurred in almost all countries, with problems ranging from a complete inability to source, to substandard quality of the procured goods, high prices, late or failed delivery and full-fledged scams (OECD, 2020a).

This unprecedented crisis raised many new questions: Which were the most widespread and costly procurement failures during this emergency, and what caused them? Which procurement laws and procedures worked better and why? Recent research has highlighted the positive effects of discretion in public procurement (Coviello, Guglielmo, & Spagnolo, 2018; Bandiera, Best, Khan, & Prat, 2020; Decarolis, Fisman, Pinotti, & Vannutelli, 2020), in particular for countries with strong institutions (Bosio, Djankov, Glaeser, & Shleifer, 2020). But how much more discretion should be granted to public authorities to facilitate urgent purchases in emergencies? And how can we limit the risk of its abuse while maintaining the needed speed and flexibility of acquisition?

This essay presents some novel, descriptive evidence from Italy.<sup>2</sup> The Italian Anticorruption Authority (ANAC) provides detailed data on all public procurement contracts with a project value

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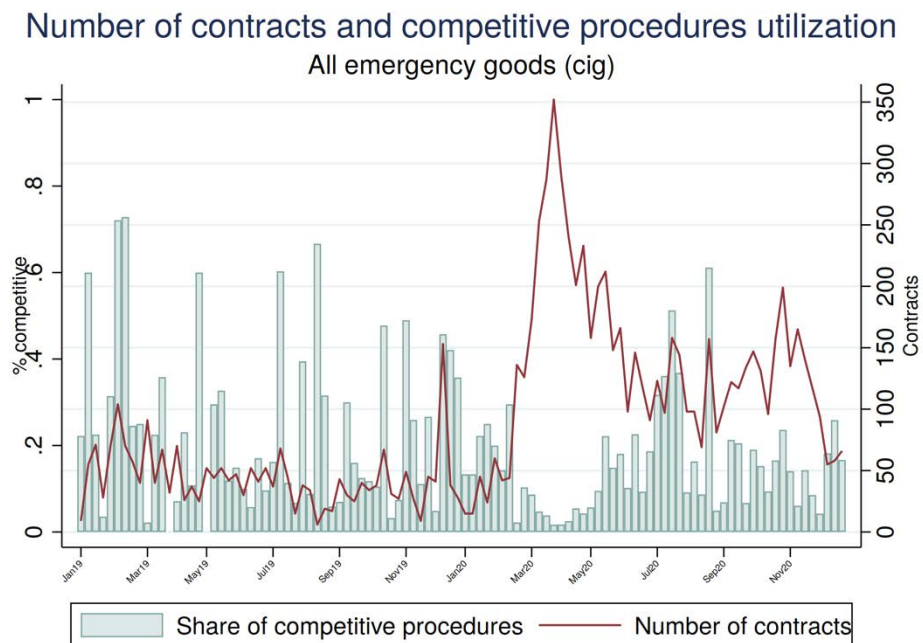
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<sup>2</sup> Despite an extensive economic literature documenting the effects of disasters and emergencies on economic and political outcomes, no economic study – whether theoretical, empirical or experimental – addresses the question of optimal design for emergency procurement, at least to our knowledge.

greater than 40,000 euros. By focusing on contracts related to the Covid19 emergency, we are able to document the exact patterns regarding the timing with which the procurement of Covid19-related goods occurred, which products were most affected and how the types of acquisition procedures shifted in response to the emergency.

Several of these features are clearly visible in Figure 1. The spike in the red line around March 2020 denotes the marked increase in the number of procurement procedures involving emergency goods, while the simultaneous drop in the vertical bars denotes that the share of these acquisitions occurring under competitive acquisition procedures collapsed. Our analysis below explores in greater details these major shifts in procurement.

**Figure 1: Number and Types of Procurement Events**



## Legal framework

From the legal perspective, the main focus of our analysis regards acquisition procedures. The Italian Public Procurement Law (*Codice Appalti Pubblici*) allows for several different kinds of acquisition procedures that are shaped by European-wide public procurement rules as laid down in the EU Procurement Directives. To make our discussion more streamlined, we combine together what are formally defined by the law as acquisition procedures and some additional elements of the call for tenders and the contract. This allows us to define four procurement procedures:<sup>3</sup>

<sup>3</sup> See Decarolis & Giorgiantonio (2015) for a detailed description of this taxonomy and of the selection mechanisms of private contractors in the public tenders for work contracts in Italy.

- (i) Competitive procedures (i.e. open auctions), in which any eligible firm is allowed to bid for the public contract. These are the 'ordinary' procedures, whereby the public administration has little discretion in the choice of the contractor and is required to define the object of the contract and the related technical specifications from the outset.
- (ii) Negotiated procedures, characterized by significant discretion at the disposal of the public administration, which has the ability to select/limit bidders and negotiate the terms of the contract with one or more of them. Italian (and European) procurement law includes thresholds below which negotiated procedures can be used more easily; otherwise, they are permitted only when there is a particular technical contingency or emergency reason, or previous procedures were run with no adjudication of the work.
- (iii) Direct awards, i.e. more streamlined discretionary procedures usually admitted for contracts of limited value, which allow the public administration to select contractors even without prior consultation of two or more economic operators.
- (iv) Acquisitions from 'framework agreements': in this procurement mode, public administrations can directly buy 'off-the-shelf', with no further time-consuming procedures, from pre-selected suppliers that already have passed a competitive screening stage – typically arranged by a central purchasing body or a coalition of buyers – and have committed to sell the relevant goods or services at pre-established conditions for a given period of time (Yukins, 2007; Albano & Nicholas, 2016).

Some relevant changes to the legal framework were introduced during the emergency. On January 21, 2020, the WHO published the first report on Coronavirus. On January 30, 2020, the WHO Director General declared that the outbreak constituted a Public Health Emergency of International Concern (PHEIC). The next day, **January 31<sup>st</sup>**, Italy declared a state of emergency for a period of six months, after two cases of Covid19 were found in Rome.

In order to adapt the procurement procedures to the Covid19 emergency situation, the Italian legislation intervened promptly. The Head of the Civil Protection Department Ordinance no. 630/20 of February 3, 2020, published on (hence legally valid from) **February 8, 2020**, allowed the use of extremely simplified procedures suitable for emergency procurement, primarily negotiated procedures and direct awards.

This approach was later confirmed by the European Commission, whose Communication on using the public procurement framework in the Covid19 emergency situation (2020/C 108 I/01) on April 1, 2020, provided that contracting authorities could reduce the deadlines to accelerate open or restricted tender procedures; or, if necessary, use negotiated procedures without publication or even direct awards.

Other important derogations included in the above-mentioned Ordinance regarded:

- (i) the awarding criterion, with a more widespread application of the lowest price criterion;
- (ii) subcontracting and variants during works, which became subject to less stringent limitations;

- (iii) an extension of the deadlines for fulfilling reporting and other obligations towards the Italian Anticorruption Authority (ANAC), the main oversight body for public procurement in Italy.

## Data description

This section provides a descriptive analysis of public contracts for emergency purchases. First, we identify a set of emergency-related goods (hereafter, emergency goods), i.e. health-care equipment and supplies for which we expect a consistent raise in purchases during the pandemic. We then compare the number of contracts and the corresponding awarding procedures made for such goods in 2020 and 2019. The data used come from the Italian Anticorruption Authority, ANAC (<https://dati.anticorruzione.it/opendata>).

Via textual analysis of contract descriptions, we identify the subset of contracts for emergency goods and separate them in four categories:

- *Personal Protective Equipment* (PPE hereafter): face masks and visors, gloves, aprons, overshoes, hair caps. This category also includes all contracts reporting “PPE” in the description, without any further specification;
- *Screening*: nasal swabs, serology tests, oximeters, thermometers.
- *Ventilators*: equipment for mechanical ventilation therapy;
- *Oxygen therapy*: equipment for oxygen therapy.

Table 1 reports the number of contracts for each of the emergency-good category described above. It clearly shows how the need to buy has substantially increased for all the examined goods apart from oxygen therapy. It is worthwhile to note how PPE shows the highest increment, rising by more than 270% and representing the most consistent part of the overall increase in emergency-good purchases (+200%).

**Table 1: Number of contracts by good category, 2019 and 2020**

Good category	2019	2020	Total
<b>PPE</b>	1452	5506 +279.2%	6958
<b>Screening</b>	434	876 +101.8%	1310
<b>Ventilators</b>	148	392 +164.9%	540
<b>Oxygen th.</b>	273	159 -41.8%	432

<b>Total</b>	2307	6933 +200,5%	9240
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Note: percentages indicate the variation in the number of contracts in 2020 for each good category compared to 2019.

## Timing of the emergency

Figure 2 and Figure 3 show the trend of the weekly number of public procurement contracts, overall and separately for each good category of interest.<sup>4</sup> The vertical lines highlight the week at which structural breaks occur (if any). To identify structural breaks we use the Bai & Perron (1998) test.<sup>5</sup>

The massive increase in the demand for PPE happens at the very beginning of the first Covid19 wave, with the structural break occurring in the week starting on February 10. On the same week the break occurs for ventilators as well. It is interesting to note how such a sharp increase happens well before the actual spread of the virus in Italy.

Most types of public contracting seem to react to the Civil Protection Department Ordinance no. 630/20 published on February 8, coordinating early interventions to prevent the spread of the virus. However, contracts regarding screening procedures (tests) exhibit a structural break later, in the week starting on March 1. We thus find evidence of a prompt reaction of public procurement to the emergency situation, but not for screening. Still, the delay in this category appears limited compared to that in other European countries that also had more time to prepare because the pandemic reached them later.<sup>6</sup>

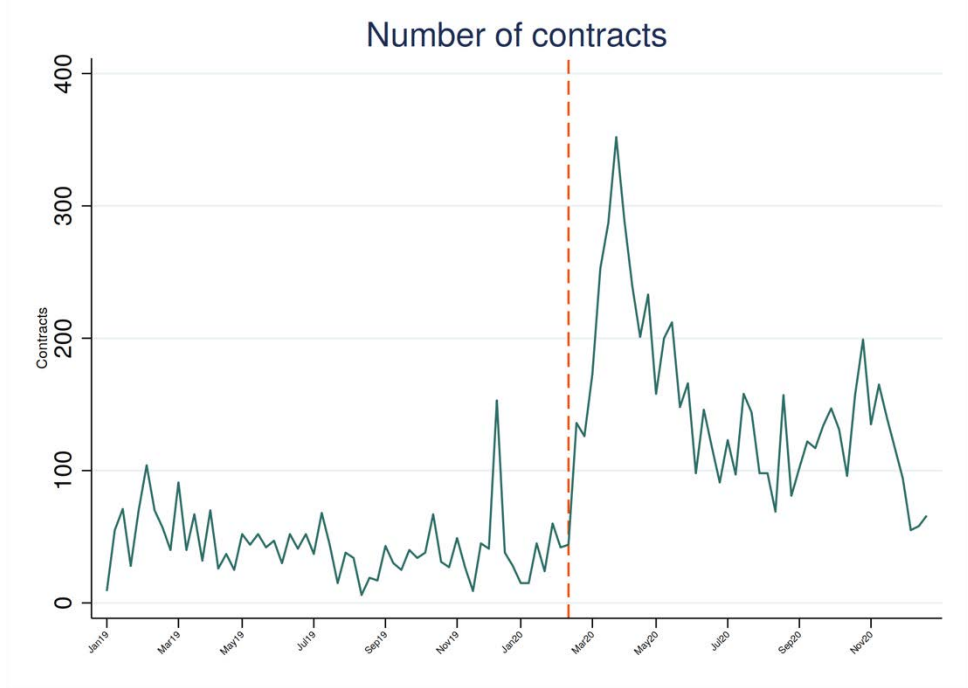
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<sup>4</sup> For the purposes of our analysis, the weeks start on Mondays and end on Sundays, following the Italian standard.

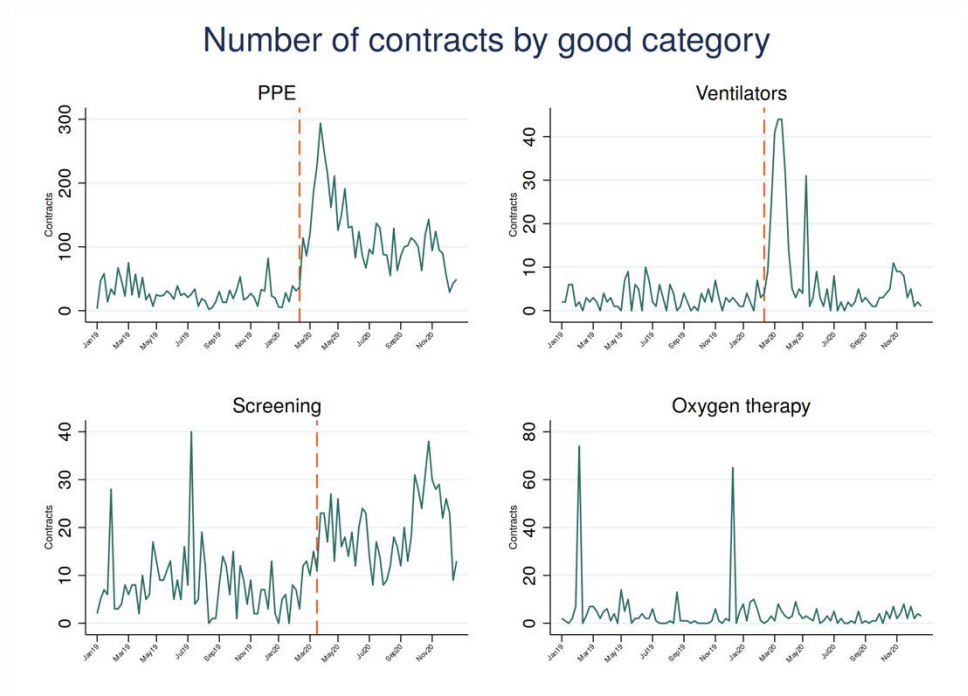
<sup>5</sup> We test the hypothesis of no breaks against the alternative of one break at unknown breakdate, implemented in Stata using `xtbreak` (Ditzen, Karavias, & Westerlund, 2021).

<sup>6</sup> For the example of Sweden, see e.g. Latour, Peracchi, & Spagnolo (2021).

**Figure 2: Weekly number of contracts for all emergency goods**



**Figure 3: Weekly number of contracts by good category**



## Awarding procedures

Lastly, we analyze the awarding methodology of the public purchases mentioned in the previous section, with a focus on if and how their use has changed during the pandemic. While Table 2 shows the overall number of contracts awarded for each good and procedure category, Figure 3 highlights the corresponding dynamics at the week level.

Already at the aggregate level it is possible to note how, within the overall massive increase in the demand of emergency goods, competitive procedures and purchases from framework agreements show a less than proportional increase. For competitive procedures, that take a long time to be prepared and announced, this was expected. Due to the urgent nature of the purchases, procedures characterized by higher speed (and discretion) were preferred, with a consequent reduction in the level of transparency besides in competition. Perhaps more surprising is the fall in purchases from framework agreements, as will be discussed further below.

**Table 2: Number of contracts by good and awarding procedure categories, 2019 and 2020**

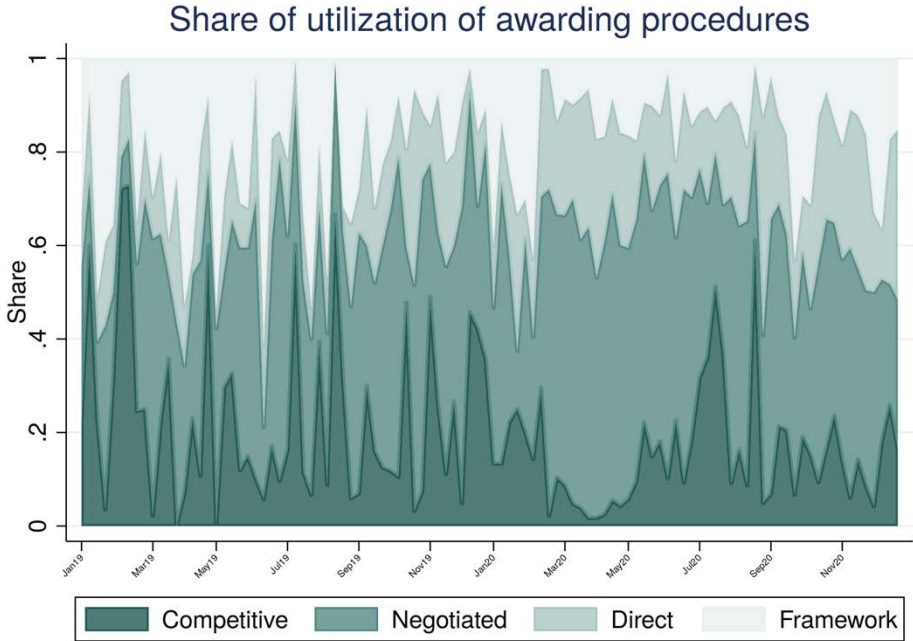
2019					
Good category	Competitive	Negotiated	Direct	Framework agreement	Total
<b>PPE</b>	280 19.3%	568 39.1%	284 19.6%	320 22%	1452 100%
<b>Screening</b>	159 36.6%	142 32.7%	28 6.5%	105 24.2%	434 100%
<b>Ventilators</b>	31 20.9%	69 46.6%	5 3.4%	43 29.1%	148 100%
<b>Oxygen th.</b>	167 61.2%	42 15.4%	7 2.5%	57 20.9%	273 100%
<b>Total</b>	637 27.6%	821 35.6%	324 14%	525 22.8%	2307 100%
2020					
Good category	Competitive	Negotiated	Direct	Framework agreement	Total
<b>PPE</b>	795 14.4%	2666 48.5%	1280 23.2%	765 13.9%	5506 100%

<b>Screening</b>	123 14%	461 52.6%	166 19%	126 14.4%	876 100%
<b>Ventilators</b>	17 4.3%	257 65.6%	84 21.4%	34 8.7%	392 100%
<b>Oxygen th.</b>	40 25.2%	53 33.3%	19 11.9%	47 29.6%	159 100%
<b>Total</b>	975 14.1%	3437 49.6%	1549 22.3%	972 14%	6933 100%

Note: (row) percentages refer to the utilization of each awarding procedure within each emergency-good category.

Figure 4 shows the share of contracts for emergency goods, plotting with different shades the share of utilization of each awarding procedure at the week level. The trend clearly illustrates how public contractors increased the use of negotiated and direct procedures since the early stages of the emergency, dramatically reducing the use of competitive procedures and of framework agreements.

**Figure 4: Share of awarding procedure utilization for emergency goods**



Similarly to Figure 2 and 3, Figure 5 shows the weekly number of public procurement contracts for emergency goods by the awarding procedure used, with vertical lines indicating the structural breaks (Bai & Perron tests for structural breaks at unknown breakdates). It is interesting to note that the structural break in the weekly number of contracts awarded via both direct and negotiated

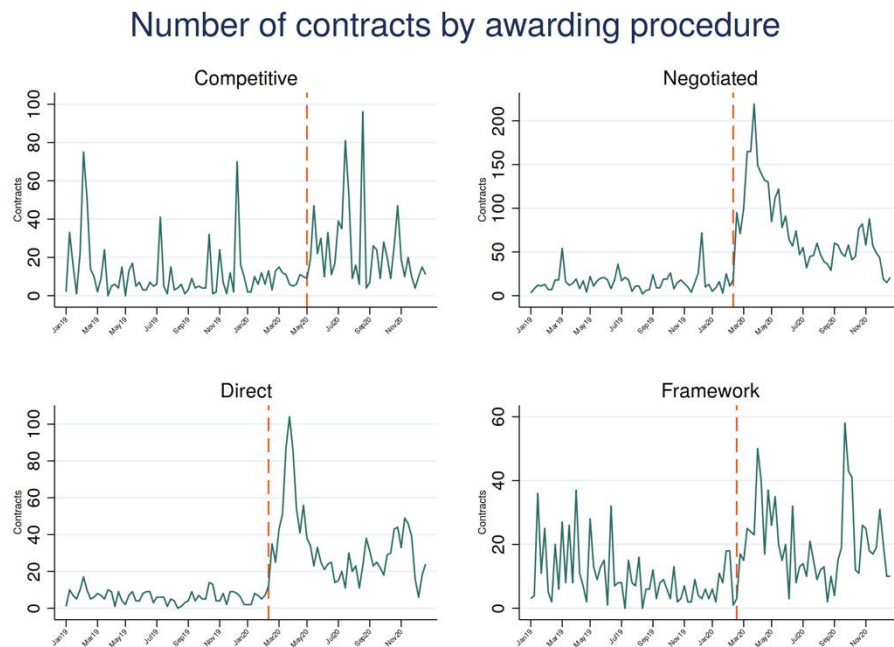


procedures happens in the same week as the number of contracts. This is in line with the hypothesized response to the Civil Protection Department Ordinance no. 630/20, which therefore prompted not only a spike in purchases but also a change in the use of awarding procedures.

On the other hand, the number of contracts awarded via a competitive procedure or within a framework agreement shows a later structural break, i.e. on the week starting on April 26 and on February 17 and respectively.

As expected, a return to competitive procedures only occurs after the acute phase of the emergency. For what concerns framework agreements, the structural break seems to be only induced by the general increase in the number of contracts for emergency goods, since we do not observe a parallel increase in their relative use but rather a drastic reduction (see Figure 4).

**Figure 5: Weekly number of contracts awarded by procedure category**

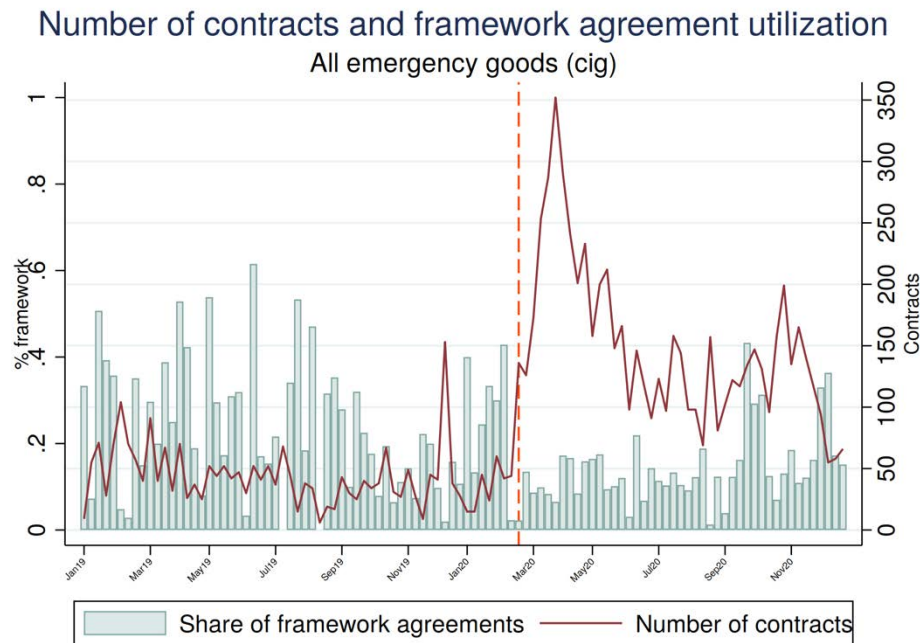


## Framework agreements

Figure 4 and 5 show that the share of purchases through framework agreements fell dramatically during the acute phase of the emergency. Figure 6 makes this drop in the utilization of framework agreements even more evident. It plots together a histogram of the share of utilization of framework agreements for emergency goods (left-hand side vertical axis) and the line graph of the weekly number of contracts (right-hand side vertical axis). The structural break represented by the red vertical dashed line represents the fall in the number of procedures awarded within a framework agreement (bottom-right panel of Figure 5). Overall, the figure confirms that,

notwithstanding the massive increase in demand for emergency goods in the first months of 2020, the use of framework agreements has dramatically decreased.

**Figure 6: Weekly number of contracts for emergency goods and framework agreement utilization**



This is surprising, because framework agreements are widely regarded as an effective tool for emergency procurement (Albano & Nicholas, 2016). For example, after Hurricane Katrina devastated New Orleans in 2005, a congressional study concluded that the government should have put more framework agreements in place to prepare for disasters (U.S. House of Representatives, 2006). Indeed, this procurement system allows for speedy ‘off-the-shelf’ acquisitions with little loss of time and bureaucratic effort. Moreover, the pricing conditions might be advantageous for the public buyer, either because of the pre-established prices -- not yet reflecting the spike in demand linked to the emergency -- or because of the increased buyer power (Bandiera, Prat, & Valletti, 2009; Lotti & Spagnolo, 2020). They also maintain a high level of transparency, helping reduce the risk of abuses of the additional discretion coming with the extensive use of direct and negotiated procedures discussed in several chapters of this eBook.

The fall in the use of framework agreements in Italy may be due to contracting authorities’ preference for the discretionary procedures that became easily available with the emergency legislation; but it may also be due to the existing agreements running out of capacity as soon as the emergency started, and to the time necessary to award new ones.<sup>7</sup> Most likely it was a

<sup>7</sup> Indeed, the first procedure for establishing a new framework agreement for emergency-related goods at the national level was opened on March 6 by Consip, the Italian central purchasing agency, i.e. about a month after the first observed reaction in (decentralized) public procurement.

combination of these two causes. We are not able to quantify the role of these competing explanations with the data available to us to date, but we plan to do it in future research when more data will become available.

## References

- Albano, G. L., & Nicholas, C. (2016). *The Law and Economics of Framework Agreements*. Cambridge University Press.
- Bai, J., & Perron, P. (1998). Estimating and Testing Linear Models with Multiple Structural Changes. *Econometrica*, 66(1), 47-78.
- Bandiera, O., Best, M. C., Khan, A. Q., & Prat, A. (2020). The Allocation of Authority in Organizations: A Field Experiment with Bureaucrats. *NBER Working Paper No. 26733*.
- Bandiera, O., Prat, A., & Valletti, T. (2009). Active and Passive Waste in Government Spending: Evidence from a Policy Experiment. *American Economic Review*, 99(4), 1278-1308.
- Bosio, E., Djankov, S., Glaeser, E., & Shleifer, A. (2020). Public Procurement in Law and Practice. *NBER Working Paper No. 27188*.
- Coviello, D., Guglielmo, A., & Spagnolo, G. (2018). The Effect of Discretion on Procurement Performance. *Management Science*, 64(2), 715-738.
- Decarolis, F., & Giorgiantonio, C. (2015). Local Public Procurement Regulations: The Case of Italy. *International Review of Law and Economics*, 43, 209-226.
- Decarolis, F., Fisman, R. J., Pinotti, P., & Vannutelli, S. (2020). Rules, Discretion, and Corruption in Procurement: Evidence from Italian Government Contracting. *CEPR Discussion Paper No. DP14794*.
- Ditzen, J., Karavias, Y., & Westerlund, J. (2021). xtbreak: Estimating and testing for structural breaks in Stata.
- Latour, C., Peracchi, F., & Spagnolo, G. (2021). Assessing Alternative Indicators for Covid-19 Policy Evaluation, with a Counterfactual for Sweden. *EIEF Working Papers Series 2107*.
- Lotti, C., & Spagnolo, G. (2020). Indirect Savings from Public Procurement Centralization. *Unpublished manuscript*.
- OECD. (2020a). *Exploitative pricing in the time of COVID-19*.
- Yukins, C. R. (2007). Are IDIQs Inefficient-Sharing Lessons with European Framework Contracting. *Public Contract Law Journal*, 37, 545.