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Dishonesty and Public Employment[*]

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Abstract

We study the link between dishonesty and selection into public employment. When military conscription was mandatory in Argentina, eligibility was determined by a lottery and by a medical examination. In order to avoid conscription, drafted individuals had strong incentives to cheat in their medical examination. These incentives varied with the lottery number. Exploiting this exogenous variation in the propensity to engage in dishonest behavior during early adulthood (the "impressionable" years), we find that individuals with higher probability of having cheated in their health checks as young adults also show higher propensity to become public employees later in life.

Keywords: Military service; conscription; public sector; state capacities; cheating.
JEL classification: K42.

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I. Introduction

Individuals differ in their propensity to engage in dishonest behavior (Fischbacher and Föllmi-Heusi 2013, Arbel et al. 2014, and Hilbig and Zettler 2015). However, differences in dishonesty between individuals have remained mostly unexplained. Do these differences between individuals reflect that dishonesty is an individual's invariant attribute? Or, alternatively, can dishonest behavior be induced and learned? Most likely, the answer to this question depends on individual's age. According to vast literature in social psychology (Mannheim 1952; Krosnick and Awin 1989), personality is formed in early adulthood (the so-called impressionable years), and remain largely unaltered thereafter.

If dishonest behavior can be induced and learned, then it is theoretically possible to estimate its causal impact. Ethical concerns, however, make difficult the design of a controlled experiment. In this paper, we exploit a natural experiment (the Argentine draft lottery) that provides exogenous variation in the incentives to engage in dishonest behavior during the impressionable years to study the causal link between individual dishonesty and selection into public employment.

Military conscription in Argentina was mandatory for almost all the XXth century. Eligibility for military conscription was determined by a public lottery based on the last 3 digits of men's national IDs and by a medical examination. Each year a lottery assigned a number between 1 and 1,000 to the males of the drafted cohort. Following the lottery, all men were called to have a medical examination. Later on, the government announced a cutoff number. Individuals whose ID number had been assigned a lottery number higher than the cutoff number and who had passed the medical exam were mandatorily called to military conscription.

The high-stake nature of the outcome (providing up to two years of unpaid military service) created strong incentives to cheat in the medical examination. Moreover, the lottery induced exogenous variation in the incentives to cheat by falsifying health conditions. We first report strong evidence of cheating in the pattern of exemptions for medical reasons. We then show that individuals with a higher probability of having cheated in their conscription health checks also have a higher propensity to become public employees later in life.

Our evidence suggests that honesty is not entirely an individual's innate type, and that dishonest behavior can be induced and repeated (Fisman and Miguel, 2007; Ajzenman, 2020). We posit that the successful experience of cheating in a high-stake situation during the formative years made these youth learned about the potential use of family monetary resources, contacts, and influence for dishonest behavior, and weakened their moral self-restraints. These individuals probably then used the same instruments to get coveted public service jobs, which in Argentina are typically accessed through personal connections, and which have important benefits such as weak absenteeism punishment, low effort requirements, and stability for life.

Our paper pieces together multiple bodies of literature. The closest literature is the one that studies selection into public service. According to this literature, public service may attract different types of individuals compared to the private sector. Selection into public service has been linked to individual honesty and to a society's level of corruption. For example, in high-corruption India, Hanna and Wang (2013) and Banerjee, Baul, and Rosenblat (2015) find that dishonest individuals self-select into public service, whereas in low-corruption Denmark, Barfort et al. (2019) report that dishonest individuals are less likely to enter public service.

Since the type of individuals that self-select into public service might also influence the effectiveness and the levels of corruption of the public sector, our analysis is also related to the literature on state capacity (see Dal Bó, Finan, and Rossi 2013; Banuri and Keefer 2016).

Finally, our paper ties in with a literature that looks at the long-term impact of events that occur during the impressionable years (Angrist 1990, Angrist 1998, Angrist and Chen 2011;

Malmendier, Tate, and Yan 2011; Galiani, Rossi, and Schargrodsky 2011; Giuliano and Spilimbergo 2014; Cantoni et al. 2017; Akbulut-Yuksel, Okoye, and Yuksel 2020; Ertola Navajas et al. 2020).

The paper is organized as follows. Section II provides background on military conscription and public employment in Argentina, which are the focus of our study. Section III describes the data. Section IV reports econometric methods and results. Section VI concludes.

II. Background: Military conscription and public employment in Argentina

<u>Military service in Argentina</u>

Military conscription in Argentina was mandatory between 1901 and 1994, when it was abolished. From 1901 to 1976, males were conscripted at the age of 21; later, this was modified to age 18. The cohort born in 1955 was the last to serve at age 21, and the cohort born in 1958 was the first to serve at age 18. Because of this change, the cohorts born in 1956 and 1957 were not called to military conscription. Our analysis focuses on the five cohorts born between 1958 and 1962, all of them serving at age 18, for which we have individual data on conscription status, pre-treatment characteristics, and the results from the medical examination.

The eligibility of young males for military service was determined through a public lottery and based on the last 3 digits of their national IDs, a unique number assigned at birth to every citizen. Around April of each year, a lottery was run assigning a number between 1 and 1,000 to each combination of the last 3 ID digits. The lottery was performed in a public session using a drum filled with a thousand balls numbered 1 to 1,000. The first ball released from the lottery drum corresponded to ID number 000, the second released ball to ID number 001, and so on. The assignment was administered by the National Lottery and supervised by the National General Notary in a public session. Results were broadcasted over the radio and published in major newspapers.

After the lottery, all men were called to have a medical examination, including mental and physical status. Later on, the government announced a cutoff number. Individuals whose ID number had been assigned a lottery number higher than the cutoff number (and who had also passed the medical examination) were mandatorily called to military conscription.[1,2] Among the ID numbers eligible for conscription, those with the lowest lottery numbers were assigned to the Army, the intermediate numbers to the Air Force, and the highest numbers to the Navy. Conscription in the Army and the Air Force was for one year, in the Navy for two years.[3] At each military force, conscription began with an additional medical examination at the time of incorporation (around February/March of the year after the lottery), followed by a 3-month instruction period where recruits learned military norms and were exposed to military training. Following the initial training, conscripts were allocated to a military unit to perform a specific duty, which not necessarily involved military tasks.[4]

Providing up to two years of unpaid military services, potentially delaying studies and insertion in the labor market, represented a significant load for young males. Galiani, Rossi, and Schargrodsky (2011) find that conscription in Argentina had detrimental effects on future job market performance and increased the likelihood of developing a subsequent criminal record. The high cost of conscription created strong incentives to obtain spurious exemptions by faking physical or mental impediments during the medical examination, sometimes complemented with using family connections or paying bribes. Gayol and Kessler (2018) state that "it was usual to

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[1] Exemption to service was granted to clerics, seminarians, novitiates, to individuals with family members dependent upon him for support, to individuals having a younger brother in the same cohort, and to a few other exceptional cases. Deferment to finish high school or college was granted up to a maximum of 10 years until the completion of studies. Deferment was also granted without a particular reason for a maximum of 2 years. In these deferral cases, the lottery numbers and cutoffs used to decide eligibility were those of their cohort.

[2] Individuals with ID number below the cutoff could be conscripted as volunteers. In general, the number of volunteers was very low.

[3] For example, for the 1959 cohort, the individuals drawn from 890 to 000 went to the Navy, the individuals drawn from 812 to 889 went to the Air Force, and the individuals drawn from 320 to 811 went to the Army. All the people who drew 1 to 319 were not drafted.

[4] For more details on military conscription in Argentina, see Rodriguez Molas (1983) and Galiani, Rossi, and Schargrodsky (2011).

obtain exemptions through the payment of bribes, by relying on influences and relationships with the military, by presenting medical certificates on physical impediment for conscription, etc."[5]

Public employment in Argentina

Argentina is a federal country comprised by 24 provinces and one autonomous capital city. It has a comparatively high level of public employment, stemming from three levels of government (national or federal, provincial, and municipal) and from three branches of power (executive, judiciary and legislative at the federal and provincial levels, and some form of executive and legislative at the municipal level).

While there are some pockets of relative high quality workforce, with technical staff scaling the rungs of professional careers by evaluations (most notably, in decentralized federal bodies, such as the tax collection and social security agencies) and meritocratic recruitment, Argentina's bureaucracy is of relatively low quality, especially given the country's level of development and stock of human capital (Bambaci, Spiller and Tommasi 2007; Spiller et al. 2007).

In terms of recruiting, while there were nominally some forms of open public competition-based intakes, the norm for public employment throughout the XXth century has been clientelism, nepotism, undue influence, and patronage, as documented in seminal work by O'Donnell (1988) and in a more recent study by Oliveros (2017). We discuss the spurious nature of access to public sector jobs when interpreting our results below.

III. Data

We have population data on all male Argentine citizens born between 1958 and 1962. The

[5] Cheating was potentially risky. The military service law (Law 17,531 of November 13, 1967) typified the crime of undue exemptions (*excepciones dolosas*). It stated that those who attempted to obtain fraudulent exemptions would face 2 to 4 years of prison for civilians, with longer sentences for military personnel. The law also established 6 months to 4 years in prison for those who intentionally caused a temporary or permanent physical impediment to become ineligible for military service. Moreover, desertion of military service was punished with doubling of conscription time plus 6 months to 2 years in prison during peacetime, and harsher penalties during wartime.

total number of men in these five cohorts is 1,099,384.

Our dataset includes individual data on draft lottery results, conscription status, a set of pre-treatment characteristics that includes origin (Argentine-born indigenous, Argentine-born non-indigenous, and naturalized citizens), and province of residence at the time of the lottery assignment. We also obtained the cutoff numbers for each cohort.[6] Using lottery results and cutoff numbers by cohort, we defined the dummy variable *Draft Exempt*, which takes the value of 1 for men whose lottery number was below the cutoff and therefore were not eligible to serve, and 0 for those whose lottery number was above the cutoff.[7]

Medical examination

Our dataset indicates when an individual failed the medical examinations (without disaggregating whether it was the main or the pre-incorporation exams), and the reason for exclusion from a coded list of 506 "conditions".[8]

In a world without strategic behavior we would expect the proportion of individuals failing the medical examination to be the same for the draft-eligible and the draft-ineligible groups. As lottery numbers are random, they should be uncorrelated with true medical conditions. However, failure rates are, on average, 3.29 percentage points (or 29 percent) higher for the draft-eligible group than for the draft ineligible group.[9] Moreover, Figure 1 shows that the failure rate increases with the lottery numbers up to the proximity to the actual cutoff, while it remains relatively flat for the draft numbers above it.[10] These differences in failure rates are consistent

[6] The data were obtained from the Argentine Army, *Oficina de Reclutamiento y Movilización, Estado Mayor del Ejército Argentino* (see Rossi, Galiani, and Schargrodsky 2011). Cutoff numbers and population size by cohort are shown in Table A1 in the online appendix.
[7] Table A2 in the online appendix presents summary statistics of the data.
[8] The armed forces and the public administration for the period under study (medical examinations between 1976 and 1980) generally referred to these as "diseases." We deliberately avoid using this terminology, and we refer instead to "conditions" (for lack of a better or more encompassing word) that were considered motives for exemption from military service in Argentina at that time, some of which were certainly not pathological or in-habilitating (i.e., sexual orientation, among others).
[9] See Table A3 in the online appendix.
[10] The mild positive slope after the cut-off is explained by the Air Force observations. Prospective conscripts were

with the different incentives to misreport a medical condition faced by those at risk of becoming draft eligible. Individuals with draft numbers far below the cutoff have fewer incentives to misreport than those closer to and above the cutoff. Of course, at the time of the examination individuals did not know the exact cutoff number that would apply to their cohort. However, they were likely to believe that it would be close to the previous year's cutoff. Indeed, in 3 of the 5 cohorts considered, the cutoff differed from the previous year's cutoff by 20 units or less.[11] Finally, the discrete jump in failure rates at the cutoff may reflect that some drafted individuals did not pass the second pre-induction medical examination (the draft exempt never reached that exam).

The findings that failure rates are higher for men in the draft-eligible group than for the draft-exempt, and that failure rates increase within the draft-exempt group as the lottery number gets closer to the cutoff, suggest that the medical examinations were manipulated. Indeed, there is ample anecdotic evidence that, when necessary, some middle and upper class youths used influence and cheated their medical conditions to avoid conscription. The comparison of failure rates of 14.57% above the cut-off relative to failure rates of 10% for the lowest fifty lottery numbers suggests that an important proportion of those that failed the medical examination were cheating. We will use whether the individual failed or not the medical examination as a *proxy* variable for whether the individual was cheating or not the medical examination.

Moreover, for the failed examinations, our dataset details the reason from a coded list of

allocated to different forces according to their draft number, and those bound to the Air Force where in the higher numbers (around 700-800), above the Army and below the Navy. The Air Force had more stringent medical examinations as conscripts should be fit to participate in flights, which explains the cluster of higher rejections in the upper-middle of the draft distribution. This results in a statistically significant slope, which is likely a statistical artifact given by this cluster and by the high number of observations. In fact, the second panel in Figure 1 also shows that, without the Air Force observations, the line above the cutoff is basically flat. Moreover, the Montiel-Pflueger effective F statistic for this potential first stage regression is 30.6, below the 37.4 critical value for a 5% worst-case bias (Pflueger and Wang, 2015; Montiel Olea and Pflueger, 2013). This means that we cannot reject the null hypothesis that the distance to the cutoff above the cutoff is a weak instrument. This is a more meaningful test than simply looking at the t test for the slope.

[11] All results are similar using the previous year's cutoff. Results mentioned but not reported are available from the authors upon request.

506 conditions considered for exemption from military service at that time. With the help of physicians from the Ministries of Defense and Security of Argentina, and occupational physicians in charge of controlling medical conditions of employees who request paid medical leaves from their employers, we classify two subsets of conditions: those more difficult/costly to verify with the technologies of those times, and/or more easy to delay treatment or exaggerate for the exam (for example, psychological conditions, visual deficiencies, hearing loss, overweight); and those conditions very hard to fake and/or easy to verify (like amputations, severe oligophrenia, spina bifida, or poliomyelitis sequels). The 170 easy-to-cheat conditions in the list represent 62.3% of the failed medical exams of the draft exempt individuals. The 91 hard-to-cheat conditions in the list represent 8.4% of the failed medical exams of the draft exempt individuals. Table A4 in the online appendix provides the list of the conditions classified in these two subsets.

Employment data

Our main objective is to relate cheating the medical examination at age 18 to becoming a public employee later in life. We rely on population data form a credit scoring agency for individuals born from 1958 to 1962. The credit score is constructed, among other inputs, with public information on formal employment from Argentina's social security administration. The dataset contains summary measures of employment histories (public sector and private sector) and industry.

Our main outcome variable is whether an individual is a *Public Sector Employee*, which takes the value 1 if the individual was a public employee at some point in the period 2010 to 2016, and 0 otherwise. The other options for employment status are being a *Private Sector Employee* or not appearing in the dataset (which could indicate inactivity, informal employment, international migration, or death). As the males in our sample were born from 1958 to 1962, they were between 48 and 58 years of age when their employment status were measured in 2010 to 2016.

IV. Econometric methods and results

We are interested in estimating the causal effect of cheating the medical examination in early adulthood on the probability of becoming a public employee in adulthood. Formally, we want to estimate the following equation:

$$\textit{Public Sector Employee}_{ic} = \beta + \alpha \textit{ Cheating Medical Examination}_{ic} + \delta_c + \varepsilon_{ic} \quad (1)$$

where i indexes individuals, c indexes cohort, δ_c is a cohort fixed effect, and ε_{ic} is an error term. The coefficient of interest is α. We estimate equation (1) using population data of men in the draft-exempt group (328,867 observations).

As we do not know observe the true medical condition, we use failure in the medical examination as a *proxy* variable for whether the individual was cheating. Cheating the medical examination is potentially endogenous in equation (1). For example, belonging to an upper class family can affect the ability to both cheating the medical examination and finding a future job in the public sector. Thus, we estimate equation (1) by Two Stage Least Squares (2SLS), where we use the randomly assigned variable *Distance to Cutoff* as an instrument for the potentially endogenous variable *Cheating Medical Examination*.[12] Indeed, and as explained above, *Distance to Cutoff* should be correlated with the strategic component of the medical examination result, but not with the true medical conditions.

In column (1) of Table 1 we report first-stage estimates. The first-stage effect is precisely estimated and indicate, as Figure 1 already suggested, that men in the draft-exempt group are more likely to fail the medical examination as they get closer to the cutoff (and therefore face a

[12] Tables A5 and A6 in the online appendix report regressions between the instrument (*Distance to Cutoff*) and the set of pre-lottery covariates, including pre-lottery place of residence. As expected, given the random assignment of lottery numbers, *Distance to Cutoff* is orthogonal to all pre-lottery characteristics. In additional, all results remain unchanged if we control for the set of pre-treatment characteristics available.

higher risk of being conscripted).

In column (2) of Table 1 we report reduced-form estimates. The coefficient on *Distance to Cutoff* is negative and statistically significant, indicating that those men with a lottery number closer to the cutoff are more likely to become a public sector employee.

In column (3) of Table 1 we report 2SLS estimates. The coefficient of *Cheating Medical Examination* is positive and significant. The magnitude of the coefficient is meaningful: cheating the medical examination at age 18 increases the probability of becoming a public sector employee between 30 and 40 years later in around 16 percentage points.

Under reasonable assumptions, the 2SLS estimate recovers the Local Average Treatment Effect (Angrist, Imbens, and Rubin 1996). The LATE parameter in our setting identifies the causal effect of cheating the medical examination at age 18 for the subset of men that were induced to misreport the medical examination by being assigned a lottery number in the proximity of the cutoff. It is important to note for the interpretation of our findings that these individuals were ultimately draft ineligible, which means that ex-post they would had avoided conscription even without cheating the medical examination. Therefore, cheating the medical examination ended up being unnecessary. From a behavioral perspective, the estimated effect could be different for those that avoided being conscripted because of cheating their medical examinations.

A potential concern could arise if the medical examination were getting tighter closer to the cutoff. That is, if more men failed the medical examination in the neighborhood of the cutoff because they had real health problems, and not because they were cheating the medical examination. And for those with a real health problem, the State acts as a welfare state and provides them with a job in the public sector. If this story were true, we would expect to find a positive correlation between failing the medical examination and working in the public sector, even for those that were not cheaters. However, this is not the case. As shown in columns (1) to (3) of Table 2, the correlation between failing the medical examination and working in the public sector is negative and significant. This finding holds true in the population, in the sub-sample of draft ineligible, and in the sub-sample of draft eligible. In addition, as shown in columns (4) to (6) of Table 2, the correlation between failing the medical examination and having a formal job in the private sector is also negative and significant. These findings indicate that those failing the medical examination are less likely to have a formal job, either in the public sector or in the private sector.

Falsification tests

As detailed above, specialized physicians helped us to classify easy-to-cheat and hard-to-cheat conditions from the list of reasons for failed medical exams. Under strategic behavior, the first-stage relationship between distance to cut-off and failed medical exams should be stronger for the easy-to-cheat conditions (which were harder or more costly to verify with the technologies of those times, and/or more easy to delay treatment or to exaggerate strategically for the exam) than for those conditions very hard to fake and/or easy to verify. This is depicted in Figure A1: both above and below the cutoff, the regression line for hard-to-cheat conditions is virtually flat, whereas the line for easy-to-cheat conditions is upward sloping below the cutoff and flat above it. The results from this visual examination is confirmed by statistical tests. Columns (1) and (2) of Table 3 indicate that the first-stage and the 2SLS results are much stronger for the easy-to-cheat conditions than for the full set of medical exemptions. For instance, the first stage coefficient for easy-to-cheat is more than 12 times larger than the first stage coefficient for hard-to-cheat (similar results with and without controls). In fact, the F test for weak instruments (Montiel Olea and Pflueger, 2013; Pflueger and Wang, 2015) in column (3) of Table 3 indicates that the explanatory power of the distance to the cutoff for hard-to-cheat conditions is such that the first stage relationship is not warranted and we cannot run the 2SLS estimation. The F coefficients for the easy-to-cheat conditions (column 1) are much larger than the critical value, indicating that we can reject the null of weak instruments and perform the IV estimation. As expected, the coefficients are statistically significant and larger than those in Table 1 (column 3), where we pool all conditions without distinguishing between hard and easy to cheat.

As an additional falsification test, in columns (1) and (2) of Table 4 we reproduce columns (2) and (3) of Table 1 using *Private Sector Employee* as dependent variable, instead of *Public Sector Employee*. *Cheating Medical Examination* could potentially indicate attributes which are also valuable for private formal employment. However, the estimated coefficients for the reduced-form and the 2SLS specification are statistically not significant, suggesting that cheating (failing) the medical examination is unrelated to private sector employment.

Finally, in column (3) of Table 4 we analyze the relationship between the distance to cut-off and public employment in the sample of the draft eligible (i.e., those with a lottery number above the cutoff). The estimated coefficient for the reduced-form specification is statistically not significant.[13] The results from all these falsification tests provide additional evidence in favor of a causal interpretation of our main results.

V. Final remarks

We rely on a unique source of variation in the propensity to engage in dishonest behavior during the impressionable years to study the link between dishonesty and selection into public service. Individuals with a higher probability of having cheated in the medical exam to obtain an

[13] Moreover, the effective F statistic (column 3) is below the cutoff value, indicating that we cannot reject the null hypothesis of weak instrument and thus cannot run the 2SLS estimation. This implies that there is no meaningful relationship between the distance to the cutoff and the medical examination above the cutoff (see Figure 1, in particular when excluding the Air Force observations).

exemption from military conscription at age 18 also exhibit a higher propensity to become public employees later in life.

We posit that the experience of successfully cheating in the formative years (potentially through bribes and/or family connections) creates a predisposition to use the same type of instruments to get coveted public service jobs, which in our context are typically accessed through personal connections, and which enjoy important benefits, such as weak absenteeism punishment, low effort requirements, and stability for life.

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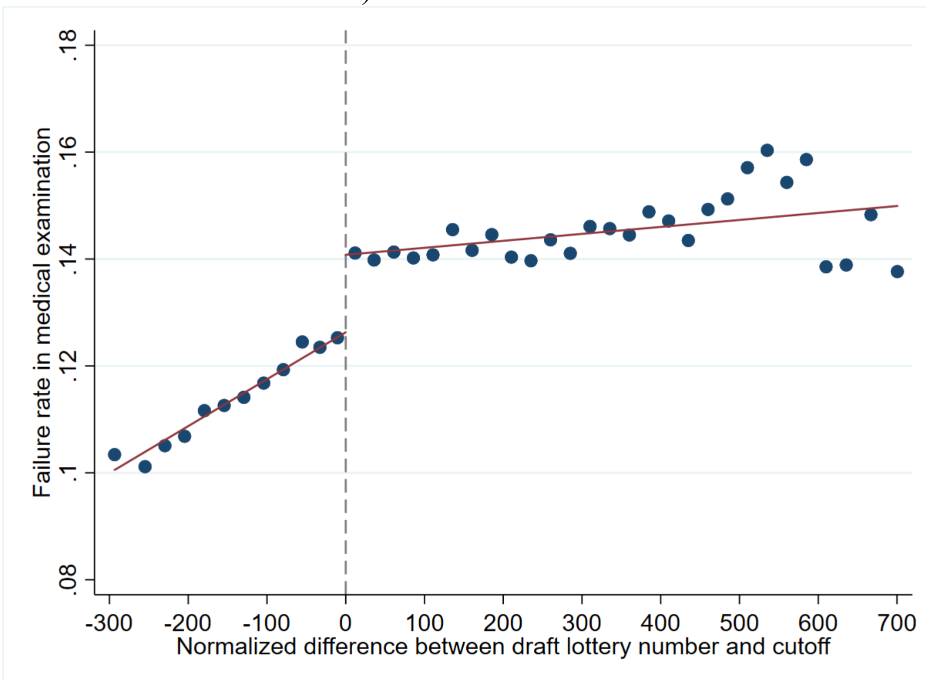
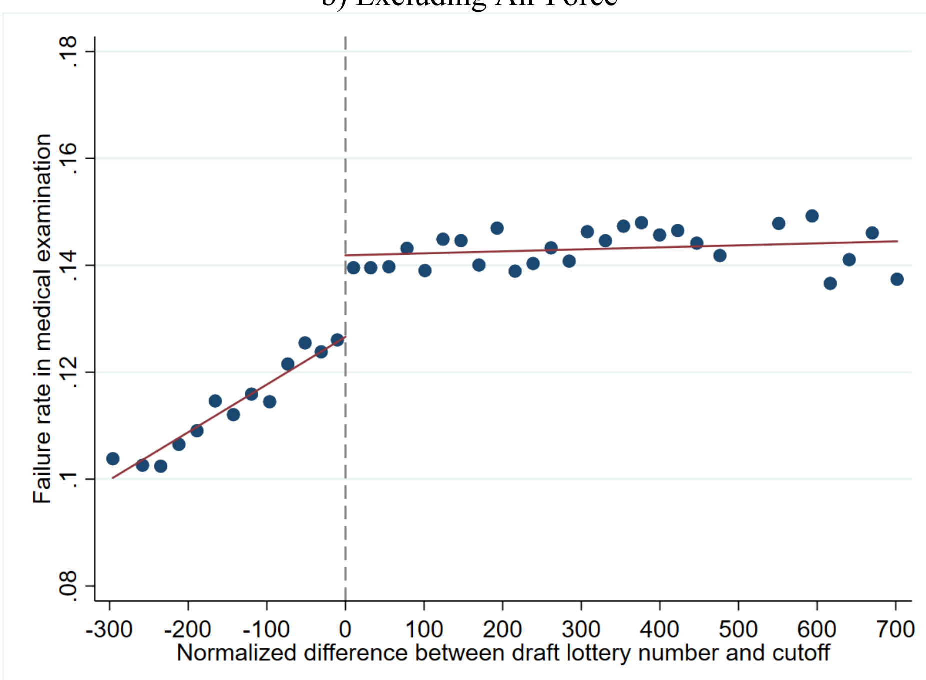
Figure 1. Failure rate of medical examination as a function of draft lottery number

a) All observations



b) Excluding Air Force



Note: The Figure depicts a binned scatterplot of the failure rate in medical examination by 60 quantiles of the normalizaed difference between the draft lottery number and the year's eligibility cutoff. The average cutoff for the 5 cohorts was 300, so the distance below the cutoff was normalized for each cohort as [-300;0] and as [0;700] for the distance above the cutoff. The plot includes cohort fixed effects.

Table 1. First stage, reduced form, and 2SLS results

	First stage	Public Sector Employee	
	(1)	(2)	(3)
Distance to Cutoff	-0.1012***	-0.0163**	
	(0.0059)	(0.0068)	
Cheating Medical Examination			0.1611**
			(0.0678)
F-statistic [CV]	297.2[37.4]		
Cohort dummies	Yes	Yes	Yes
Controls	No	No	No
Estimation method	OLS	OLS	2SLS
Observations	328,867	328,867	328,867

Notes: Standard errors clustered at the id-cohort level are shown in parentheses. In the 2SLS model, Cheating Medical Examination is instrumented using Distance to Cutoff. In all models the sample is restricted to the draft-exempt group. F-statistic is the Montiel-Pfueger effective F statistic, which is compared to the critical values for the 2SLS weak instruments at a 5% worst case bias (Montiel Olea and Pflueger, 2013; Pfueger and Wang, 2015). *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

Medical examination results and working in the formal sector

	Public Sector Employee			Private Sector Employee		
	(1)	(2)	(3)	(4)	(5)	(6)
Cheating Medical Examination	-0.0185*** (0.0009)	-0.0170*** (0.0018)	-0.0194*** (0.0011)	-0.0512*** (0.0013)	-0.0557*** (0.0025)	-0.0496*** (0.0015)
Cohort dummies	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	No	No	No
Sample	All	Draft ineligible	Draft eligible	All	Draft ineligible	Draft eligible
Observations	1,099,195	328,818	770,377	1,099,195	328,818	770,377

Notes: Standard errors clustered at the id-cohort level are shown in parentheses. The models (1) and (4) are estimated in the population of male citizens born between 1958 and 1962. The models (2) and (5) are estimated in the sample of draft ineligible. The models (3) and (6) are estimated in the sample of draft eligible. All models are estimated using OLS. *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

Table 3. First stage and 2SLS results by type of medical examination result

	Easy-To-Cheat	Hard-To-Cheat	Public Sector Employee
	(1)	(2)	(3)
Distance to Cutoff	-0.0692***	-0.0055***	
	(0.0046)	(0.0018)	
Easy-To-Cheat			0.2357**
			(0.0987)
F-statistic [CV]	222.6[37.4]	9.2 [37.4]	
Cohort dummies	Yes	Yes	Yes
Controls	No	No	No
Estimation method	OLS	OLS	2SLS
Observations	328,867	328,867	328,867

Notes: Standard errors clustered at the id-cohort level are shown in parentheses. In the 2SLS model, Cheating Medical Examination is instrumented using Distance to Cutoff. In all models the sample is restricted to the draft-exempt group. F-statistic is the Montiel-Pfueger effective F statistic, which is compared to the critical values for the 2SLS weak instruments at a 5% worst case bias (Montiel Olea and Pflueger, 2013; Pfueger and Wang, 2015). *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

Table 4. Private sector employment and sample of draft eligible

	Private Sector Employee		Public Sector Employee
	(1)	(2)	(3)
Distance to Cutoff	0.0070		0.0026
	(0.0090)		(0.0019)
Cheating Medical Examination		-0.0692	
		(0.0888)	
F Test	223.6[37.4]		
Cohort dummies	Yes	Yes	Yes
Controls	No	No	No
Estimation method	OLS	2SLS	OLS
Sample	Draft Ineligible		Draft Eligible
Observations	328,818	328,818	770,377

Notes: Standard errors clustered at the id-cohort level are shown in parentheses. In the 2SLS model, Cheating Medical Examination is instrumented using Distance to Cutoff. F-statistic is the Montiel-Pfueger effective F statistic, which is compared to the critical values for the 2SLS weak instruments at a 5% worst case bias (Montiel Olea and Pflueger, 2013; Pfueger and Wang, 2015). Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

ONLINE APPENDIX

Table A1. Population size and cutoff numbers by cohort

Cohort born in	Population	Cutoff number
1958	218,788	175
1959	216,969	320
1960	221,316	341
1961	214,984	350
1962	227,327	320

Table A2. Descriptive statistics for male Argentine citizens born 1958-1962

	Mean	Standard Deviation	Observations
Draft Exempt	0.2992	0.4579	1,099,384
Failed Medical Examination	0.1358	0.3426	1,099,384
Public Sector Employee (2010-2016)	0.1418	0.3489	1,099,384
Private Sector Employee (2010-2016)	0.3379	0.4730	1,099,384
Argentine Born (not indigenous)	0.9765	0.1513	1,099,384
Indigenous Argentine	0.0209	0.1428	1,099,384
Naturalized Argentine	0.0026	0.0512	1,099,384

Notes: Draft Exempt takes the value of 1 for men whose lottery number is below the cutoff, and 0 otherwise. Failed Medical Examination takes the value of 1 for men who failed the medical examination, and 0 otherwise. Public Sector Employee takes the value 1 if the individual is a public employee at some point in the period 2010 to 2016, and 0 otherwise. Private Sector Employee takes the value 1 if the individual had a formal job in the private sector at some point in the period 2010 to 2016, and 0 otherwise. Argentine Born (not indigenous). Argentine Born (not indigenous) takes the value 1 if the individual was born in Argentina of no indigenous origin, and 0 otherwise. Indigenous Argentine takes the value 1 if the individual was born in Argentina and was of indigenous origin, and 0 otherwise. Naturalized Argentine takes the value 1 if the individual was Argentine citizen but not born in Argentina, and 0 otherwise

Table A3. Failure rates in medical examination by draft eligibility group

Cohort	Draft eligible	Draft exempt	Difference
1958-1962	0.1457	0.1128	0.0329***
	(0.0004)	(0.0006)	(0.0007)
Observations	770,517	328,867	1,099,384
1958	0.1475	0.1269	0.0206***
	(0.0008)	(0.0017)	(0.0019)
Observations	181,173	37,615	218,788
1959	0.1651	0.1284	0.0367***
	(0.0010)	(0.0013)	(0.0016)
Observations	147,755	69,214	216,969
1960	0.1358	0.1115	0.0243***
	(0.0009)	(0.0012)	(0.0015)
Observations	146,982	74,334	221,316
1961	0.1313	0.1025	0.0287***
	(0.0009)	(0.0011)	(0.0014)
Observations	139,758	75,226	214,984
1962	0.1474	0.1026	0.0448***
	(0.0009)	(0.0011)	(0.0014)
Observations	154,849	72,478	227,327

Notes: Standard errors are in parentheses. *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

Table A4. Easy-to-cheat and hard-to-cheat conditions

Easy-to-cheat conditions:

Psychological conditions: alcohol related psychosis; psychosis associated with other brain conditions; schizophrenia; affective psychosis; paranoid states; other psychosis; non-specified psychosis; anxiety neurosis; hysterical neurosis; phobic neurosis; obsessive compulsive disorder; depressive neurosis; neurasthenia; depersonalization disorder; hypochondriac neurosis; other neuroses; paranoid personality; affective personality; schizoid personality; explosive personality; anankastic personality; hysterical personality; asthenic personality; antisocial personality; other personalities; homosexuality; fetishism; pedophilia; transvestism; exhibitionism; other sexual deviations; alcoholism; drug addiction; somatic disorders of psychic origin; babbling and stammering; specific learning disorders; tics ; enuresis ; other somatic disorders ; mental disorders associated with soma.

Eye diseases and disorders: conjunctivitis and ophthalmia; blepharitis; keratitis and corneal ulcer; iritis; irido choroiditis; choroiditis; other inflammations of the uveal tract; optic neuritis and retinal inflammatory; inflammation of glands and tear ducts; other inflammatory diseases of the eye; refractive visual defects; myopia; farsightedness; astigmatism; anisometropia; visual acuity; corneal opacity; pterygium; crossed eye; cataracts; glaucoma; retinal detachment; other diseases of the retina and of the optic nerve; other diseases of the eye.

Auditory diseases and disorders: other inflammatory diseases of the ear; Meniere's disease; other diseases of the ear and of the mastoid apophysis; deaf, mute; bilateral hearing loss; unilateral hearing loss; hearing loss.

Endocrine diseases: simple goiter, colloid goiter; nontoxic nodular goiter; thyrotoxicosis with or without goiter; thyroiditis; diabetes mellitus; other disorders of the internal secretion of the pancreas; parathyroid glands diseases; pituitary gland disorders; adrenal gland diseases; testicular dysfunction; polyglandular deficiency syndrome and other endocrine.

Metabolic disorders: avitaminosis and deficient states; other metabolism diseases; obesity not specified as endocrine; other metabolic and non-specified diseases.

Neurological diseases: epilepsy; trigeminal neuralgia; brachial neuritis; sciatica; polyneuritis and polyradiculitis; other neuralgias and neuritis; other diseases of the cranial nerves; other peripheral neuropathy except the autonomic system; peripheral nerve paralysis; disorders of the autonomic nervous system.

Cardiovascular diseases: essential malignant hypertension; essential benign hypertension; renovascular hypertension; heart block; other rhythm disorders; misdefined diseases of the heart; hemorrhoids; varicocele; other diseases of the circulatory system; global increase of the cardiac area; partial increase of the cardiac area; hernias and diaphragmatic relaxations.

Respiratory diseases: asthma; chronic sinusitis; other diseases of the upper respiratory tract.

Digestive diseases: dental caries and decreasing masticatory surface; periodontal diseases; malocclusion; tongue diseases and other oral pathological states; stomach ulcer; duodenal ulcer; peptic ulcer; gastritis or duodenitis; other diseases of the stomach and the duodenum; inguinal hernia; femoral hernia; umbilical hernia; ventral hernia; diaphragmatic hernia; hernias from other locations; non-infectious gastroenteritis and colitis; diverticulitis; other intestinal and peritoneal diseases.

Diseases of the liver, bile ducts and pancreas: other diseases of the liver; other gallbladder and bile ducts diseases.

Renal diseases: other diseases of the kidney and the ureters.

Urogenital diseases: cystitis; other diseases of the bladder; non-venereal urethritis; other diseases of the urinary system; chronic prostatitis; other diseases of the prostate; hydrocele; epididymitis orchitis; other genital diseases; testicular atrophy.

Skin disorders and diseases: eczema and other dermatitis; psoriasis and related conditions; pruritus and related conditions; corns and calluses; other hypertrophic or atrophic disorders of the skin; other dermatosis; nail diseases; hair and hair follicles diseases; sweat glands disease; sebaceous gland diseases; hives and angioedema; other skin diseases.

Rheumatic diseases: other specified types of arthritis; unspecified arthritis; other bone diseases; intervertebral disk displacement; other diseases of the joints; synovitis; other diseases of the muscles, tendons and aponeurosis; deviation of the column; flat feet.

Trauma: pseudoarthrosis; shortening of a lower member; kyphosis or scoliosis.

Genetic conditions: retained testicle; scotoma; constitutional weakness; lack of thoracic perimeter; weight.

<u>Hard-to-cheat conditions</u>:

Trauma: eye enucleation; amputation of the tongue, nose or auricle; penis or testicle amputation; traumatic amputation of the thumb; traumatic amputation of other parts of the thumb; traumatic amputation of other fingers of the hand; traumatic amputation of the hand phalanges; traumatic amputation of the arm or hand; traumatic amputation of the foot; traumatic amputation of parts of the foot; traumatic amputation of the foot phalanges; traumatic amputation of the leg; spinal fracture.

Infectious diseases: leprosy; acute poliomyelitis; poliomyelitis sequels; hiv/aids.

Tumors: malignant lip neoplasm; malignant tongue neoplasm; malignant neoplasm of the salivary glands; malignant neoplasm of gum; malignant neoplasm of other parts of the oral cavity; malignant neoplasm of larynx; malignant esophageal cancer; malignant tumor of the stomach; malignant tumor of the small intestine; malignant tumor of the large intestine; malignant rectal cancer; malignant tumor of the liver and intraliver bile ducts; malignant tumor of the vesicle and extraliver bile ducts; malignant pancreatic cancer; peritoneal and retroperitoneal malignant tumor; malignant tumor of non-specified digestive organs; malignant tumor of nose, ear and annex; malignant tumor of larynx; malignant neoplasm of trachea, bronchus, and lung; malignant pleural tumor; malignant tumor of mediastinum; malignant neoplasm of other thoracic organs; malignant tumor of bones; malignant tumor of connective tissue and other soft tissues; malignant melanoma; malignant tumor of breast; malignant tumor of prostate; malignant testicular cancer; malignant tumor of other genital organs; malignant bladder cancer; malignant kidney tumor; malignant tumor of renal pelvis; malignant ureteral tumor; malignant eye tumor; malignant brain tumor; malignant tumor of other parts of the nervous system; malignant tumor of the thyroid; malignant tumor of other endocrine glands; secondary malignant tumor of unspecified lymph nodes; malignant tumor of other non-specified sites; lymphosarcoma and reticulum cell sarcoma; Hodgkin's lymphoma; other types of lymphomas; multiple myeloma; lymphocytic leukemia; myeloid leukemia; monocytic leukemia; other leukemias; tumor of unspecified origin;

bone tumor.
Endocrine diseases: congenital hypothyroidism.
Metabolic disorders: active rachitism; rachitism sequels.
Psychological conditions: severe oligophrenia; serious oligophrenia.
Neurological diseases: hereditary ataxias; multiple sclerosis; infant spastic cerebral palsy; other cerebral palsy.
Eye diseases and disorders: blindness.
Cardiovascular diseases: dextrocardia.
Respiratory diseases: nasal septum deviation; pulmonary agenesis.
Genetic conditions: spina bifida; congenital hydrocephalus; cleft lip and cleft palate; undefined sex; hypospadias; epispadies; renal agenesis; congenital clubfoot; pectus carinatum; congenital anomalies of the skin, hair and nails (albinism); situs inversus.

Source: The list of 506 conditions considered as reasons for exemption of military service (and their aggrupation) was obtained from the Argentine Army, *Oficina de Reclutamiento y Movilización, Estado Mayor del Ejército Argentino* (see Rossi, Galiani, and Schargrodsky 2011). The classification of 170 easy-to-cheat and 91 hard-to-cheat conditions was made with the help of physicians from the Ministries of Defense and Security of Argentina, and occupational physicians in charge of controlling medical conditions of employees who request paid medical leaves from their employers.

Table A5. Orthogonality between the instrument and pre-lottery characteristics

	Argentine Born	Indigenous Argentine	Naturalized Argentine
Distance to Cutoff	0.0005	-0.0008	0.0003
	(0.0027)	(0.0025)	(0.0009)
Observations	328,867	328,867	328,867

Notes: Standard errors clustered at the id-cohort level are in parentheses. All models are estimated using Ordinary Least Squares and include cohort dummies. The sample is restricted to the draft-exempt group.

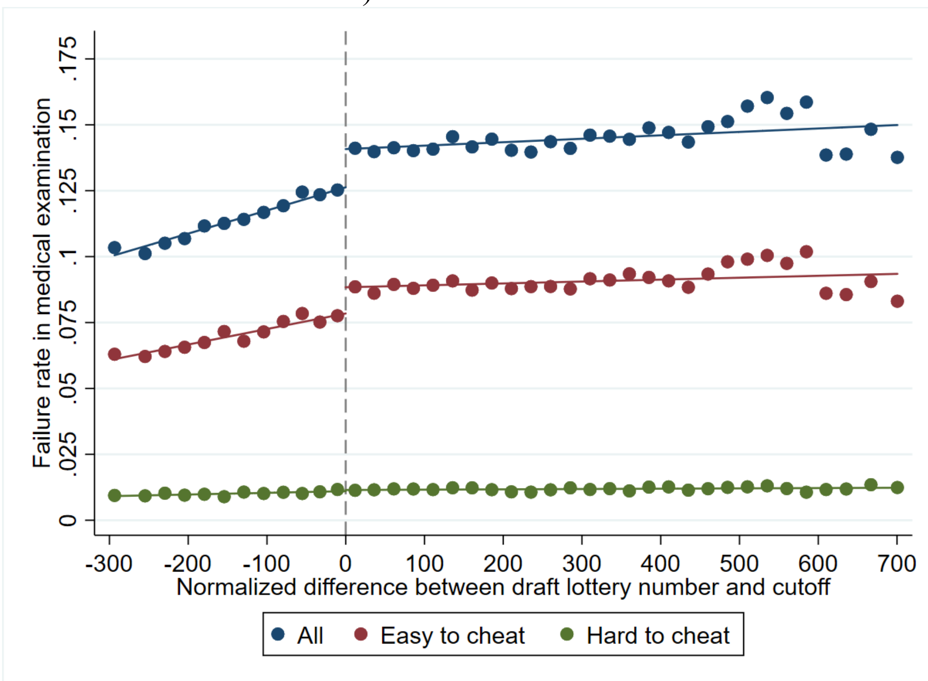
Table A6. Orthogonality between the instrument and pre-lottery place of residence

	Dependent variable: Distance to Cutoff
City of Buenos Aires	0.9163
	(6.0785)
Province of Buenos Aires	1.4622
	(6.0520)
Catamarca	-0.0229
	(6.2496)
Córdoba	1.5877
	(6.0489)
Corrientes	0.9797
	(6.0666)
Entre Ríos	1.0999
	(6.0616)
Jujuy	0.3234
	(6.1431)
Mendoza	2.1784
	(6.1445)
La Rioja	3.4408
	(6.2319)
Salta	0.3603
	(6.0996)
San Juan	2.0794
	(6.1155)
San Luis	-0.9188
	(6.3630)
Santa Fe	2.6310
	(6.0814)
Santiago del Estero	1.1240
	(6.0874)
Tucumán	1.0781
	(6.1213)
Chaco	3.4088
	(6.1173)
Chubut	0.6302
	(6.2181)
Formosa	2.1609
	(6.2183)
Misiones	0.0799
	(6.0875)
Neuquén	1.0504
	(6.2681)
La Pampa	0.0090
	(6.4418)
Río Negro	3.3185
	(6.2107)
Santa Cruz	-1.3741
	(6.5279)
Foreign country	3.3417
	(6.6125)
Observations	328,818

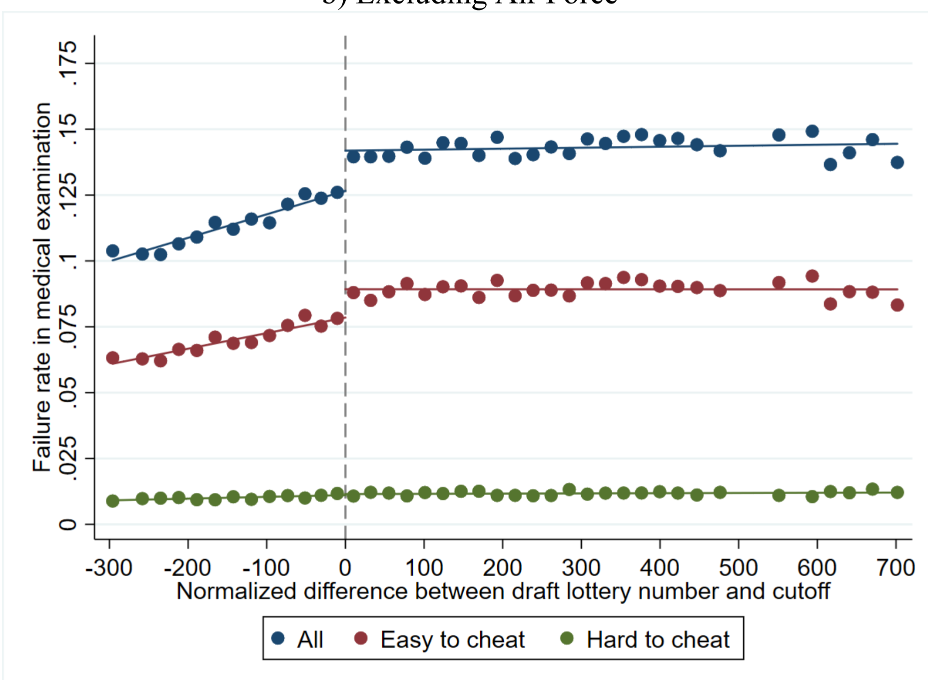
Notes: Standard errors clustered at the id-cohort level are shown in parentheses. The model is estimated using Ordinary Least Squares and include cohort dummies.

Figure A1. Failure rate of medical examination as function of draft lottery number

a) All observations



b) Excluding Air Force



Note: The Figure depicts a binned scatterplot of the failure rate in medical examination by 60 quantiles of the normalizaed difference between the draft lottery number and the year's eligibility cutoff. The average cutoff for the 5 cohorts was 300, so the distance below the cutoff was normalized for each cohort as [-300;0] and as [0;700] for the distance above the cutoff. The plot includes cohort fixed effects.