Uncertainty and Immigrant Entrepreneurship: Evidence From Brexit

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Appendix

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A1. The Entrepreneurship Dataset

A1.1 Data Aggregation

Data on incorporations in Great Britain are provided by Companies House, the UK business registry. One of this dataset's main advantages is that it does not suffer from under-representation of small firms: all companies are tracked from their incorporation until their dissolution, regardless of their financial figures or the number of employees, which allows us to precisely track entry and exit of all firms in the economy. This is often not the case with other widely used datasets (e.g., Business Structure Database, VAT registrations), which tend to include only firms that surpass some employment or turnover threshold. Overall, business registry data allow researchers to get an accurate image of a country's entrepreneurial landscape, which is why they have increasingly gained momentum in the literature studying entrepreneurship (e.g., Guzman & Stern, 2020).

We collect information on every firm that has been active at any point in our period of interest (i.e., from December 2012 to December 2018 included). From this initial set of firms, we exclude some particular types of firms such as partnerships, insurance companies, European companies (i.e., European Economic Interest Grouping, Societas Europaea), royal charters, ICVCs (Investment company with variable capital), and industrial/provident companies. We also exclude dormant firms, i.e., firms that are incorporated but not actively trading on the market.[36] We also discard ≈421,000 firms that belong to specific sectors (i.e., agriculture, hunting, and forestry; fishing, mining, and quarrying; utilities; public administration and defense; extraterritorial organizations; and private households with employees) and ≈26,000 firms that appointed other firms as directors. Our final sample contains ≈5.6 million unique firms.

It is worth noticing that roughly 600,000 firms in our data do not have information about the industry as companies are not required to report it when they register but within one year after

[36] This group includes firms that are classified as dormant, as well as firms that were created at some point in our period but have not filed any financial records for more than four years after their incorporation.

the incorporation date. We exploit firms' names and fill in the missing values by using a prediction algorithm that exploits the fact that the firms' names can give information about their industry. For instance, a company named "Matt's Pizza" has a higher chance of belonging to the "Hotels and Restaurants" industry than others. More information about this prediction exercise is available in Marinoni (2023).

A1.2 Assigning Nationalities to Firms

In order to assign nationalities to firms, we proceed by collecting every nationality for each founder of each firm. It might be that an individual holds multiple passports, i.e., belongs to different nationalities. In this case, we assign a unique nationality by giving precedence to the UK, EU, and the rest of the world, respectively. For instance, if a founder is British and French, we assign a British nationality; if the founder is French and American, we assign a French nationality; finally, if a founder belongs to two rest-of-the-world countries, we assign the nationality located closer to the UK.

We proceed in this way in order to give priority to the "most relevant" nationality for our case. For instance, if an individual is both a British and French citizen, she will not be affected by Brexit, as she can easily rely on her British passport, so we would code her as British. We then go ahead and assign a "firm nationality" based on the nationality that most appear in the founding team. In case of ties (i.e., two founders with different nationalities), we prioritize European countries over rest-of-the-world countries. We also rank nationalities depending on the geographical distance between the UK and the country (i.e., if there is an Italian founder and a Dutch founder, we prioritize the Dutch nationality). We build this variable using all 220 foreign nationalities present in our data.

A2. Weighting and Heteroskedasticity

We argue that a weighted regression is necessary for our context because of the presence of heteroskedasticity. This can manifest in two ways. First, less populous countries might have a lower variance in terms of firms than more populous countries since their population is lower. Second, there

might be heteroskedasticity in changes, i.e., an increase in a few firms implies a large percentage change for less populous countries, but for a lot of bins, there will be no change (high variance). For more populous countries, the percentage changes will be small for all bins (low variance). Following (Solon et al., 2015) and (Wooldridge, 2015), we perform a Breusch-Pagan test where the residuals from an unweighted OLS regression are regressed on the inverse within-group sample size (i.e., country population). The result of this test confirms our hypothesis of significant heteroskedasticity across groups in our context (see Table A-2), thus motivating our use of weights.

A3. Validation of Our Novel Venture Quality Measure

We propose a new measure to capture firm quality *at founding* that leverages the incorporation document that each firm must submit at the moment of incorporation. The information required in this document is usually quite basic, and founders are usually required to indicate only the company name, incorporation date, company address, founders' information, and the number and allocation of the initial shares in the firm. However, high-quality high-growth companies tend to include more clauses and rules that will be applicable in different scenarios according to several contingencies in an attempt to better protect their assets. For instance, they might insert clauses related to decision-making, or they might create different types of shares that hold different types of voting and redeeming rights. Since companies are allowed to amend the clauses in the initial incorporation contract, we will take into account the incorporation document and all the amendment documents filed within one year of the incorporation of the company.[37] Figure A-3 shows the table of contents of the incorporation document of Deepmind, a London-based AI startup that was bought by Google for $400 million. This document will be very different from the incorporation papers of a low-quality startup with no growth prospects and which is probably just a substitute for paid employment.

For example, by examining the incorporation document of DeepMind—an AI-based startup established in the UK in 2010 and eventually bought by Google for $400 million—we notice that at the time

[37] We will use the mean of the documents to calculate the length of the incorporation document.

of its founding, the company had already set up several rules dealing with contingencies related not only to ownership shares but also to voting and decision-making rights (Figure A-3 in the Appendix shows the table of contents of their 50-page incorporation document). Instead, only basic and strictly necessary elements, such as the list of founders and the number of shares emitted, are included in incorporation documents of lower-quality firms, which are usually only a few pages long.

Table A-15 shows some basic descriptive statistics of this variable for all the firms in our sample, irrespective of their founders' country of origin. In general, companies tend to have short incorporation documents, with an average of 18.35 and a median of 15. The distribution of this variable, just like other quality-based measures, tends to be quite skewed (see Figure A-4).

Given the novelty of our variable, it is useful to verify whether our measure for initial quality is correlated with a more standard measure of "future" quality (i.e., standard measures used by scholars to establish the quality of a firm at every point of its life after incorporation). We then consider four different measures:

- *Size of the financial accounts* in the final year of the firm (censored to the end of 2018). This variable, which can take values ranging from 1 to 3, is a proxy for the underlying financial values of a firm. The UK business registry requires firms to file their financials depending on their size (the larger the firm, the more detailed the financial documents need to be), and all firms need to be categorized. To determine which category each firm belongs to, there are thresholds related to the value of turnover, assets (fixed plus current), and the number of employees.

- *Length of the financial document* filed in the final year of the firm (censored to the end of 2018). This measure exploits the fact that larger firms are required to file more accurate and detailed financials by law by the registry. Thus, higher-quality, successful firms with high underlying financials tend to have longer balance sheets and income statements than low-quality firms.

- *Patents.* We match all our firms with patent data coming from the PATSTAT dataset. We

match all patents that have been granted in Great Britain from 1995 to 2018 to our firms using a fuzzy matching algorithm on both the historical and the most recent name and address. Also, we made sure that the filing of the patent happened in a period when the firm was existent. We build a dummy variable that takes the value one if the company has been granted at least one patent and zero otherwise.

- *Presence of an investor.* Higher-quality ventures might be more likely to have investors. On one hand, investors might be attracted by high-quality firms that have the potential to grow; on the other hand, high-quality firms might also need more investment to start with in order to pursue their ambitious goals. We check the presence of investors by looking at the list of reported activities that each company has to file by law with the UK business registry. In particular, we check for the issuance of new shares of the company, followed by the appointment of a new director on the board within six months. This combination of actions strongly indicates the presence of a venture capital investor (or similar), as the company might need to issue a particular type of share (e.g., series A), and the investor might require a seat on the board of directors (which is almost always the case in investment deals involving venture capital).

Table A-10 shows the results of various regressions where the variables listed above are regressed on our quality measure based on the incorporation document. Overall, all measures are strongly and positively correlated, reassuring the validity of our novel variable. The magnitude of the coefficients is also economically significant. As our quality measure is defined as the number of pages in the incorporation document, the coefficients are to be interpreted as the association between an increase in one page of the incorporation document and the other quality-based measures. When looking at Column (4), for instance, we find a coefficient of 0.19, and its odd ratio corresponds to 1.21. Then the interpretation of this specification is that a startup with a 1-page longer incorporation document is 1.21 more likely to have a patent granted. This magnitude is quite significant if we consider that it

stems from one additional page. For instance, if we compare a low-quality firm (with a 7-page long document, which is the average within this category) with a high-quality firm with a 35-page long document, which is the average within this category), this odds ratio corresponds to an increase of 34 times in the odds of having a patent granted. Figure A-5 shows binscatter plots for some of these regressions.

It is important to note that our measure differs from the variables traditionally used to gauge firm quality (e.g., VC-backing, financial performance) as it captures quality at founding. As such, it is a noisier measure of quality. Although this measure will be correlated with the type of entrepreneurial opportunities pursued and founders' quality in general, there is no certainty that the high-risk high-reward potential of the venture will be realized. This implies that it is not necessary for firms to score in the top 1 or 5 percentiles in order to have some growth potential. For instance, OakNorth, one of the most famous fintech companies in the UK, has an incorporation document of 28 pages, which is right above the 80th percentile of our distribution. A similar pattern can be observed with other start-ups which later became unicorns (e.g., Farfetch.com and Funding Circle). Thus, for our analysis, we choose a quite conservative threshold to define high-quality firms, which corresponds to the 80th percentile of the distribution.

A4. Additional Figures and Tables

Table A-1: Brexit Timeline

Date	Event
January 23, 2013	David Cameron declares he is in favor of an EU referendum
April 14, 2015	Launch of the Conservative Party Manifesto for the 2015 General Election, committing to hold an in-out referendum on our membership of the EU before the end of 2017
May 7, 2015	Election of Cameron on Manifesto containing referendum promise
September 7, 2015	European Union Referendum Act passed in parliament
Feb 20, 2016	Date of referendum confirmed
June 23, 2016	EU Referendum
July 13, 2016	Cameron steps down, Theresa May becomes Prime Minister
March 29, 2017	Invocation of Article 50
June 8, 2017	Snap General Election
January 15	First failed vote on withdrawal deal
January 16	2019 Government wins vote of no confidence
March 12, 2019	Second failed vote on withdrawal deal
March 14, 2019	Vote to request extension of Article 50 (to April 12 if no deal agreed or May 22 if deal agreed)
March 29, 2019	Third failed vote on withdrawal deal and originally planned leaving date
April 10, 2019	The UK and EU27 agree to extend Article 50 until October 31, 2019
May 24, 2019	Theresa May gave official notice of her resignation
June 24, 2019	Boris Johnson elected Prime Minister by conservative party members

Source: Brexit timeline taken from Javorcik et al. (2022), which is based on events leading to the UK's exit from the European Union, Commons Briefing papers CBP-7960, Nigel Walker, https://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7960.

TABLE A-2: Heteroskedasticity test (Wooldridge, 2015)

Dep.Var.	(1) OLS Residuals
Inverse within-group sample size (population)	-910.019** (356.341)
Constant	0.000 (0.001)
Observations	931,480
R-squared	0.000

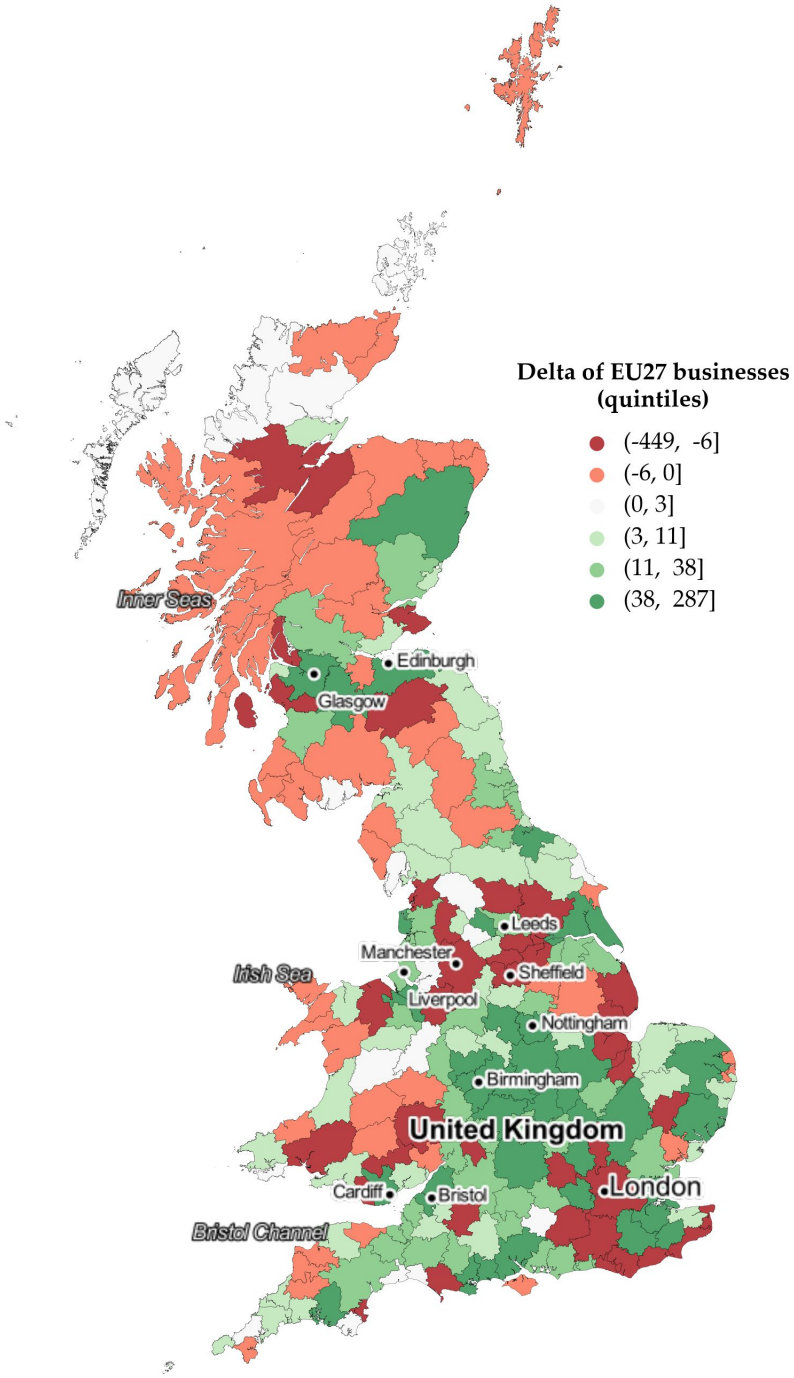
Notes: This table shows the result of a Breusch-Pagan test where the inverse within-group sample size is regressed on OLS residuals in order to check for heteroskedasticity across countries (as suggested by Solon et al. (2015) and Wooldridge (2015)). A significant coefficient indicates the presence of significant heteroskedasticity, suggesting that the regression needs to be weighted. Standard errors are in parentheses: (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

TABLE A-3: Brexit and Entry Rate of European firms — Robustness Checks

	(1)	(2)	(3)	(4)	(5)	(6)
	Dv: Growth in the Number of New Firms					
Control Group:	All	All+UK	All	All	All	All
Specification:	OLS	OLS	OLS	OLS	OLS	Poisson
Sample:	All	All	No London	All	All	All
EU-27	0.032***	0.025***	0.026***	0.025***	0.012*	0.886***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.006)	(0.095)
EU27*Post	-0.034***	-0.031***	-0.031***	-0.030***	-0.027***	-0.192**
	(0.006)	(0.005)	(0.005)	(0.005)	(0.010)	(0.079)
Observations	925,520	974,740	901,080	931,480	1,935,320	933,340
Sector FE	YES	YES	YES	YES*Date	YES (2D)	YES
TTWA FE	YES	YES	YES	YES	YES	YES
Date FE	YES	YES	YES	YES*	YES	YES
Controls	NO	NO	NO	NO	NO	NO
Weight	SelfEmpl	Pop	Pop	Pop	Pop	NO

*Notes:*This table includes the coefficients from different robustness checks for our main regressions showing the effect of the Brexit referendum on the growth rate of the number of new firms from the European Union. The main dependent variable is growth rate, which is measured as the change in the inverse hyperbolic sine transformation (arcsin) of the new number of European businesses. Regressions are at the sector, TTWA, quarter, and country-of-nationality-of-the-founders levels. Column (1) uses the number of self-employed people in the country of nationality of the founders (i.e., the most represented nationality in the founding team) as the weight. In the other columns, except column (5), we use instead the population in the country of nationality of the founders (i.e., the most represented nationality in the founding team) as the weight. In column (2), we include firms founded by UK nationals in the control group alongside firms established by rest-of-the-world founders, which is our control group in all the other columns. In column (3), we drop the London Travel to Work Area from our estimations as an additional robustness check. In column (4), we include sector*date fixed effects, while column (5) uses two-digit SIC codes as sector fixed effects. Column (6) shows a Poisson model using the count of new firms as the main dependent variable. Clustered standard errors at the region and sector levels are in parentheses. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

FIGURE A-1: Delta of New EU Firms Pre- and Post-Brexit, by TTWA



Note: This map shows the difference of new EU firms (i.e., firms whose founders are EU nationals) established a year before and after the Brexit event.

TABLE A-4: Entry by Country

	(1)	(2)	(3)
	Dv: Growth in the Number of New Firms		
Country	England	Wales	Scotland
EU27	0.025***	0.039***	0.031***
	(0.003)	(0.011)	(0.004)
EU27*Post	-0.029***	-0.057***	-0.037**
	(0.006)	(0.017)	(0.012)
N	806,960	47,580	76,940
Sector FE	YES	YES	YES
TTWA FE	YES	YES	YES
Date FE	YES	YES	YES
Controls	NO	NO	NO
Weight	Pop	Pop	Pop

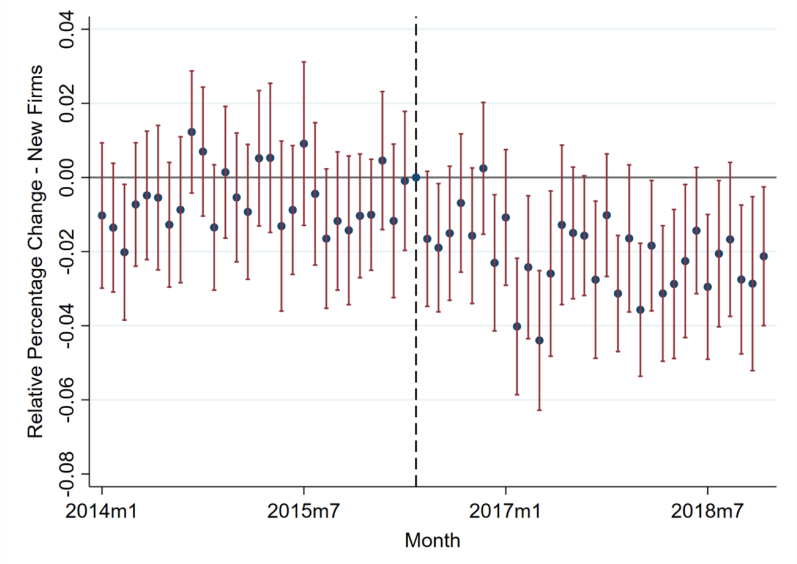
Notes: This table includes the coefficients from regressions showing the effect of the Brexit referendum on the growth rate of the number of new firms from the European Union by country. The main dependent variable is growth rate, which is measured as the change in the inverse hyperbolic sine transformation (arcsin) of the new number of European businesses. Regressions are at the sector, TTWA, quarter, and country-of-nationality-of-the-founders levels. Regressions are weighted by the population of the country of nationality (the most represented nationality in the founding team). Clustered standard errors at the region and sector levels are in parentheses. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

TABLE A-5: Entry by Type of Area

	(1)	(2)	(4)	(4)	(5)
	Dv: Growth in the Number of New Firms				
	Rural TTWA	Small Town TTWA	Large Town TTWA	Major Conurbation TTWA	Greater London
EU27	0.001	0.020***	0.030***	0.044***	0.094***
	(0.004)	(0.004)	(0.004)	(0.008)	(0.012)
EU27*Post	-0.009	-0.032***	-0.036***	-0.035**	-0.141***
	(0.008)	(0.007)	(0.007)	(0.014)	(0.014)
N	77,500	159,340	469,940	224,700	49,900
Sector FE	YES	YES	YES	YES	YES
TTWA FE	YES	YES	YES	YES	YES
Date FE	YES	YES	YES	YES	YES
Controls	NO	NO	NO	NO	NO
Weight	Pop	Pop	Pop	Pop	Pop

Notes: This table includes the coefficients from regressions showing the effect of the Brexit referendum on the growth rate of the number of new firms from the European Union by the mean age of the founding team. The main dependent variable is growth rate, which is measured as the change in the inverse hyperbolic sine transformation (arcsin) of the new number of European businesses. Regressions are at the sector, TTWA, quarter, and country-of-nationality-of-the-founders levels. Regressions are weighted by the population of the country of nationality (the most represented nationality in the founding team). Clustered standard errors at the region and sector levels are in parentheses. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

FIGURE A-2: Difference-in-Difference treatment by Year (monthly)



Note: This figure shows the coefficients of the interaction of the variable EU×Post across time (months) from the specification described in Eq. 6. The interaction is equal to one in the quarter indicated for EU firms, and zero otherwise. Solid lines refer to 90% confidence intervals obtained using clustered standard errors at the region and sector levels.

TABLE A-6: Entry by Brexit Result

	(1)	(2)
	Dv: Growth in the Number of New Firms	
Brexit result	Leave	Remain
EU27	0.022***	0.039***
	(0.003)	(0.004)
EU27*Post	-0.026***	-0.049***
	(0.005)	(0.008)
N	643020	288460
Sector FE	YES	YES
TTWA FE	YES	YES
Date FE	YES	YES
Controls	NO	NO
Weight	Pop	Pop

Notes: This table includes the coefficients from regressions showing the effect of the Brexit referendum on the growth rate of the number of new firms from the European Union by the result of the Brexit referendum. The main dependent variable is growth rate, which is measured as the change in the inverse hyperbolic sine transformation (arcsin) of the new number of European businesses. Regressions are at the sector, TTWA, quarter, and country-of-nationality-of-the-founders levels. Regressions are weighted by the population of the country of nationality (the most represented nationality in the founding team). Clustered standard errors at the region and sector levels are in parentheses. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

TABLE A-7: Entry by Size of the Founding Team

	(1)	(2)	(3)	(4)
	Dv: Growth in the Number of New Firms			
N founders	1	2	3	4+
EU27	0.028***	0.008***	-0.001	0.003
	(0.003)	(0.003)	(0.004)	(0.004)
EU27*Post	-0.031***	-0.012**	-0.004	-0.009
	(0.005)	(0.005)	(0.007)	(0.007)
N	769,440	570,960	195,220	121,660
Sector FE	YES	YES	YES	YES
TTWA FE	YES	YES	YES	YES
Date FE	YES	YES	YES	YES
Controls	NO	NO	NO	NO
Weight	Pop	Pop	Pop	Pop

Notes: This table includes the coefficients from different regressions showing the effect of the Brexit referendum on the growth rate of the number of new firms from the European Union by the size of the founding team. The main dependent variable is growth rate, which is measured as the change in the inverse hyperbolic sine transformation (arcsin) of the new number of European businesses. Regressions are at the sector, TTWA, quarter, and country-of-nationality-of-the-founders levels. Regressions are weighted by the population of the country of nationality (the most represented nationality in the founding team). Clustered standard errors at the region and sector levels are in parentheses. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

TABLE A-8: Entry by Mean Age of the Founders Team

	(1)	(2)	(4)	(4)
	Dv: Growth in the Number of New Firms			
Founders' age	35-	36-41	42-49	50+
EU27	0.033***	0.011***	0.001	-0.002
	(0.004)	(0.003)	(0.003)	(0.003)
EU27*Post	-0.026***	-0.023***	-0.006	0.002
	(0.006)	(0.005)	(0.005)	(0.005)
N	589,300	520,200	462,840	362,760
Sector FE	YES	YES	YES	YES
TTWA FE	YES	YES	YES	YES
Date FE	YES	YES	YES	YES
Controls	NO	NO	NO	NO
Weight	Pop	Pop	Pop	Pop

Notes: This table includes the coefficients from regressions showing the effect of the Brexit referendum on the growth rate of the number of new firms from the European Union by the mean age of the founding team. The main dependent variable is growth rate, which is measured as the change in the inverse hyperbolic sine transformation (arcsin) of the new number of European businesses. Regressions are at the sector, TTWA, quarter, and country-of-nationality-of-the-founders levels. Regressions are weighted by the population of the country of nationality (the most represented nationality in the founding team). Clustered standard errors at the region and sector levels are in parentheses. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

TABLE A-9: Entry by Sector

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dv: Growth in the Number of New Firms								
	Manufacturing	Construction	Wholesale Retail	Hotels Restaurants	Transport Comm	Finance	Business/ Real E	Education	Health
EU27	0.014**	0.024***	0.033***	0.010	0.062***	0.018*	0.045***	0.008	0.011
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.007)	(0.005)	(0.009)
EU27*Post	-0.025	-0.015	-0.043**	-0.020**	-0.063***	-0.037**	-0.062***	-0.005	0.012
	(0.015)	(0.012)	(0.016)	(0.008)	(0.013)	(0.013)	(0.012)	(0.010)	(0.012)
N	81,640	70,420	133,780	108,540	80,080	42,900	175,880	31,140	96,920
Sector FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
TTWA FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Date FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Controls	NO	NO	NO	NO	NO	NO	NO	NO	NO
Weight	Pop	Pop	Pop	Pop	Pop	Pop	Pop	Pop	Pop

Notes: This table includes the coefficients from regressions showing the effect of the Brexit referendum on the growth rate of the number of new firms from the European Union by sector. The main dependent variable is growth rate, which is measured as the change in the inverse hyperbolic sine transformation (arcsin) of the new number of European businesses. Regressions are at the sector, TTWA, quarter, and country-of-nationality-of-the-founders levels. Regressions are weighted by the population of the country of nationality (the most represented nationality in the founding team). Clustered standard errors at the region and sector levels are in parentheses. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

TABLE A-10: Validation of Quality Measure

	(1)	(2)	(3)	(4)
Dep Var:	Financial Account Size	Financial Account Length	Patents	Share Emission + Investor Appointment
Specification:	Ologit	OLS	Logit	Logit
Incorporation-based quality measure	0.019***	0.066***	0.011***	0.019***
	(0.000)	(0.000)	(0.002)	(0.000)
Observations	2,079,267	2,079,151	5,545,203	5,556,663

Notes: This table shows results of multiple regressions where traditional quality measures are regressed on our quality-at-founding measure based on the incorporation documents. The unit of analysis is at the firm level. The dependent variable in column (1) is the size of the financial account (with values ranging from 1 to 3) in the last year of activity of the firm (censored to 2018). Column (2) considers the length of the financial accounts in the last year of activity of the firm (censored to 2018). Column (3) takes into account whether the firm has at least one patent. Finally, the dependent variable in column (4) tries to capture the presence of an investor in the firm by relying on the firm's activities with the business registry. All regressions include year, industry, and TTWA fixed effects. Robust standard errors are reported: (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

TABLE A-11: Entry of High-Quality Firms by Founders' Past Entrepreneurial Experience

	(1)	(2)	(3)	(4)
	Dv: Growth in the Number of New Firms			
Firm quality	Low	Low	High	High
Past experience	No	Yes	No	Yes
EU27	0.028***	-0.005*	0.013***	0.005***
	(0.004)	(0.003)	(0.002)	(0.002)
EU27*Post	-0.044***	0.011**	-0.022***	-0.013***
	(0.007)	(0.005)	(0.004)	(0.003)
N	471,920	471,920	488,260	488,260
Sector FE	YES	YES	YES	YES
TTWA FE	YES	YES	YES	YES
Date FE	YES	YES	YES	YES
Controls	NO	NO	NO	NO
Weight	Pop	Pop	Pop	Pop

Notes: This table shows the coefficients from different regressions showing the effect of the Brexit referendum on the growth rate of the number of new high-quality firms from the European Union by founders' past entrepreneurial experience. The main dependent variable is growth rate, which is measured as the change in the inverse hyperbolic sine transformation (arcsin) of the new number of European businesses. Regressions are at the sector, TTWA, quarter, and country-of-nationality-of-the-founders level. Regressions are weighted by the population of the country of nationality (the most represented nationality in the founding team). Clustered standard errors at the region and sector levels are in parentheses. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

TABLE A-12: Brexit and Entry Rate of European Firms – Robustness with no US founders and without founders from the 7 countries affected by Trump's Muslim ban

	(1)	(2)
	Dv: Growth in the Number of New Firms	
Control Group:	All	All
Specification:	OLS	OLS
Sample:	No Americans	No nationalities involved in Trump's Ban (7)
EU-27	0.027***	0.026***
	(0.003)	(0.003)
EU27*Post	-0.034***	-0.032***
	(0.005)	(0.005)
Observations	910,000	896,340
Sector FE	YES	YES
TTWA FE	YES	YES
Date FE	YES	YES
Controls	NO	NO
Weight	Pop	Pop

Notes: This table includes the coefficients from different regressions showing the effect of the Brexit referendum on the growth rate of the number of new firms from the European Union while excluding 1- Americans in Column (1), 2- the countries affected by Trump's Muslim ban (through the Executive Order 13780), i.e., Iran, Iraq, Libya, Somalia, Sudan, Syria, and Yemen in Column (2). The main dependent variable is growth rate, which is measured as the change in the inverse hyperbolic sine transformation (arcsin) of the new number of European businesses. Regressions are at the sector, TTWA, quarter, and country-of-nationality-of-the-founders levels. Clustered standard errors at the region and sector levels are in parentheses. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

TABLE A-13: Share of Low-, Medium- and High-Skilled Job Seekers Before and After Brexit

Dv:	(1) Low-skilled seeking a job as employees	(2) Medium-skilled seeking a job as employees	(3) High-skilled seeking a job as employees
EU27*Post	0.385***	0.037***	-0.196***
	(0.000)	(0.000)	(0.000)
Observations	253	173	226
R Squared	0.347	0.366	0.363

Notes: This table contains the coefficients from two regressions showing the change after the Brexit referendum in the share of low-skilled people seeking a job as an employee (column 1), medium-skilled people seeking a job as an employee (column 2), and high-skilled people seeking a job as an employee (column 3). Our treatment group includes the countries in the European Union, while the rest of the countries in Europe constitute the control group. Regressions are weighted using population of the country of origin and include the following controls: GDP per capita, percentage of self employed and unemployed population, and percentage of people with secondary education. Data from these regressions come from the 2015–2017 Quarterly Labor Force Survey and are aggregated at the country-of-origin and quarter level. Educational categories are the following: university degree or equivalent; higher education or other qualifications; GCE A level or equivalent and lower qualifications. Robust standard errors are reported in parentheses: (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

TABLE A-14: Entry of New Firms by Quality and Size of the Founding Team

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dv: Growth in the Number of New Firms							
Firm quality	Low	Low	Low	Low	High	High	High	High
N founders	1	2	3	4+	1	2	3	4+
EU27	0.024***	-0.002	-0.002	-0.001	0.013***	0.004**	0.001	0.001
	(0.004)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)
EU27*Post	-0.037***	0.004	0.002	0.002**	-0.023***	-0.011***	-0.003**	-0.003**
	(0.008)	(0.004)	(0.002)	(0.001)	(0.004)	(0.003)	(0.001)	(0.001)
N	471,920	471,920	471,920	471,920	488,260	488,260	488,260	488,260
Sector FE	YES	YES	YES	YES	YES	YES	YES	YES
TTWA FE	YES	YES	YES	YES	YES	YES	YES	YES
Date FE	YES	YES	YES	YES	YES	YES	YES	YES
Controls	NO	NO	NO	NO	NO	NO	NO	NO
Weight	Pop	Pop	Pop	Pop	Pop	Pop	Pop	Pop

Notes: This table shows the coefficients from different regressions showing the effect of the Brexit referendum on the growth rate of the number of new low- or high-quality firms from the European Union by the size of the founding team. The main dependent variable is growth rate, which is measured as the change in the inverse hyperbolic sine transformation (arcsin) of the new number of European businesses. Regressions are at the sector, TTWA, quarter, and country-of-nationality-of-the-founders levels. Regressions are weighted by the population of the country of nationality (the most represented nationality in the founding team). Clustered standard errors at the region and sector levels are in parentheses. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

FIGURE A-3: Table of Contents of Deepmind's Incorporation Document

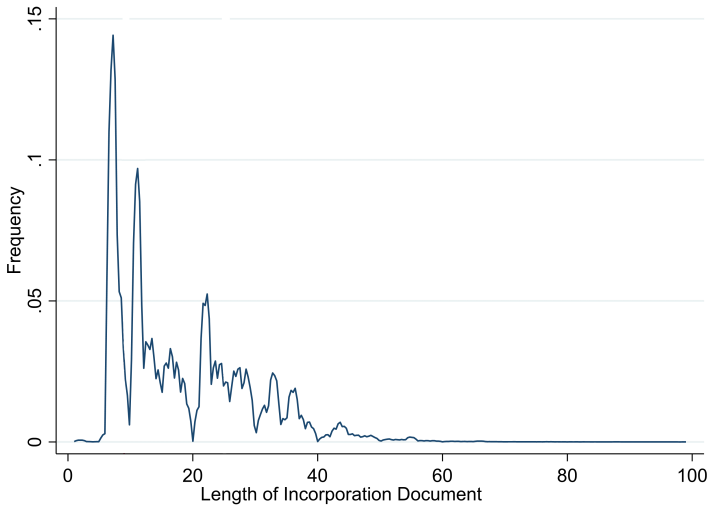
CONTENTS

TABLE A-15: Descriptive Statistics of our Quality Variable (Length of Incorporation Documents)

Mean	18.35
Min	1
20th percentile	7
Median	15
80th percentile	26
99th percentile	51
Max	991
St.Dev.	11.34
N	5,556,663

Notes: Descriptive Statistics of our quality variable (length of incorporation documents) using our full sample of firms (all nationalities).

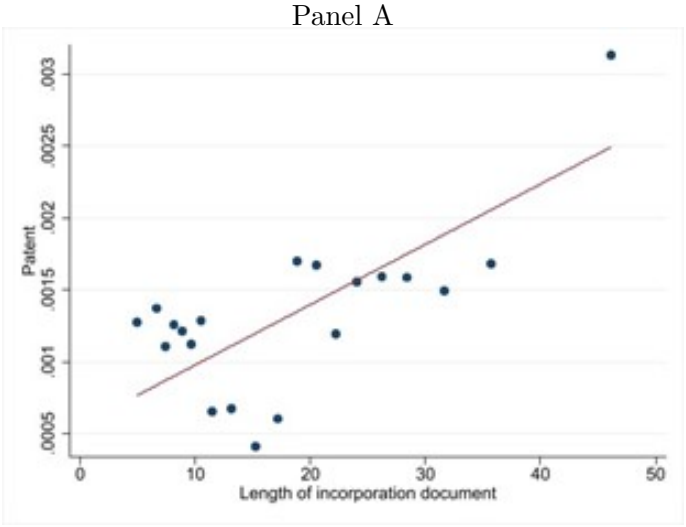
FIGURE A-4: Distribution of the length of incorporation documents



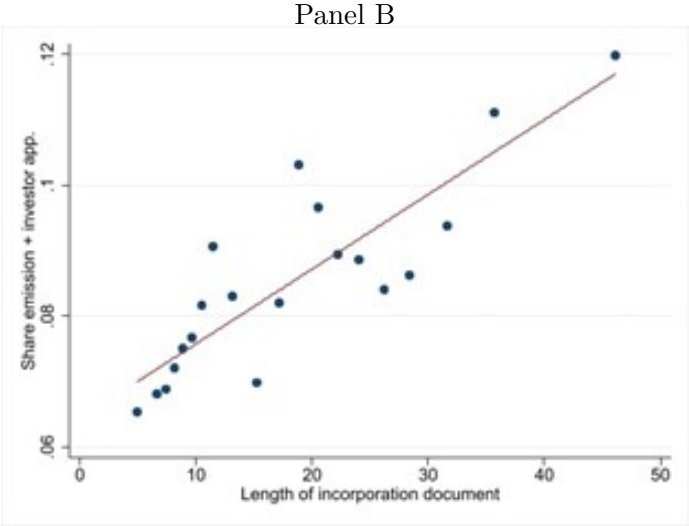
Note: This figure shows the distribution of the length of incorporation documents. The maximum has been cut to the 99.93 percentile of the distribution (around 100 pages).

FIGURE A-5: Binscatter plots: length of incorporation documents and patent activity (Panel A), length of incorporation documents and presence of investors (Panel B)

Panel A



Panel B



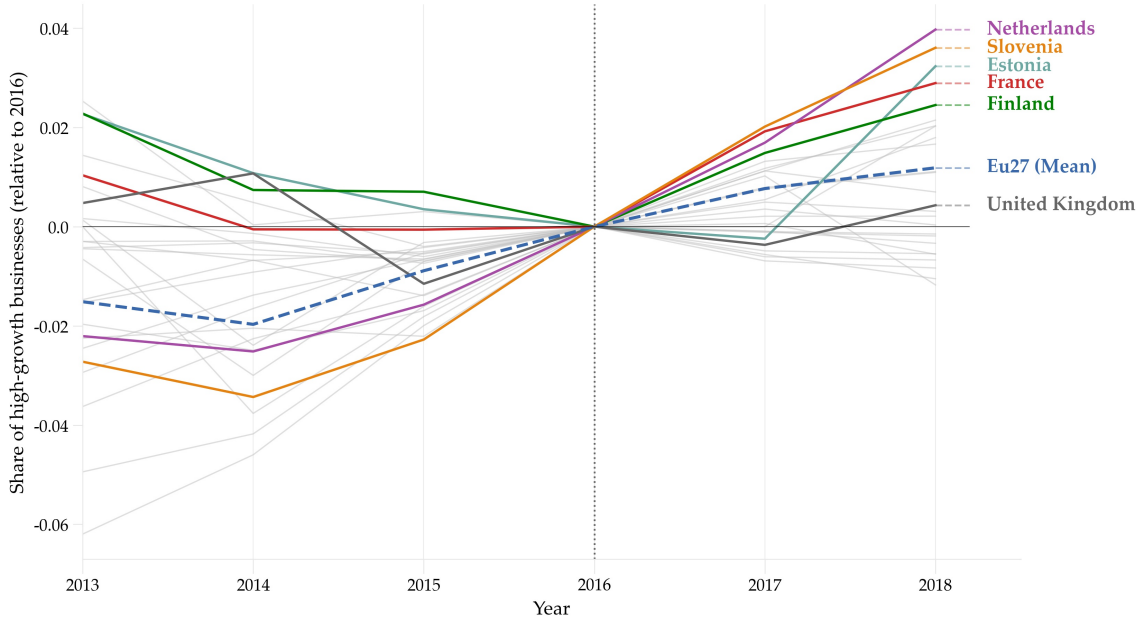
Note: Binscatter plots include the usual controls added in Table A-10.

TABLE A-16: VC investments in EU27 Countries After Brexit

	(1) VC investments on GDP	(2) VC investments on GDP
EU27*Post	0.014***	0.011***
	(0.004)	(0.004)
Observations	213	185
R Squared	0.836	0.869
Country FE	YES	YES
Year FE	YES	YES
Controls	NO	YES

This table includes the coefficients from regressions showing the effect of the Brexit referendum on the amount of VC investment on GDP (source: OECD) in the European Union (UK excluded). Regressions are at the year and country levels. Regressions are weighted using country population. Column (1) does not include any contols, while Column (2) includes the following: GDP per capita, percentage of self-employed and unemployed population, percentage of people with secondary education, start-up costs and business taxes. Robust standard errors are reported: (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

FIGURE A-6: High-Quality Entrepreneurship in EU Countries After Brexit



Note: This figure shows the share of high-quality businesses in European countries and in Great Britain relative to 2016.