

Online Appendix for "Business is Tense: New Evidence on How Language Affects Economic Activity"

A Future Reference Classification of Languages

Building on previous work in linguistics, [Chen \(2013\)](#) provides the first empirical investigation of the relationship between language and economic behaviour. [Chen](#) distinguishes languages between those with an obligatory grammatical marking of future reference when speaking of future events in prediction-based contexts which are out of speaker's control, such as weather forecasts, defined for simplicity as *Strong Future Time Reference* (strong FTR, henceforth) and those that do not prescribe an obligatory grammatical marking of future reference in those contexts, defined as *Weak Future Time Reference* (weak FTR, henceforth). Necessarily, this partition is somehow rough because languages have many alternatives to express actions or events that will occur in the future.

It is important to acknowledge that the distinction between languages according to the obligatoriness of future reference marking can sometimes be less clear-cut than one may think. In fact, on one hand, speakers of strong FTR languages, when referring to future, may use the present rather than future tense in various situations, as, for example, when speaking of immediate plans. French speakers can indeed use *Je vais en ville* (tr. *I'm going to town*) even before the actual action of going begins. On the other hand, weak FTR languages may have grammatical devices to signal that a statement is referring to the future, and these might be particularly used if the information about the temporal context is insufficient. In German, for instance, the verb *wird* (tr. *become*) might be used instead of the copular verb *be* to indicate that the statement is referring to the future (e.g. *Es wird kalt*, rather than the present form *Es ist kalt*, to say *It will be cold*). Another example is Finnish where the combination of present tense with the accusative case, rather than the partitive case, is used to express that the speaker is referring to the future (e.g. *Pekka kirjoittaa kirjaa*, with the partitive, is used to say *Pekka is writing a book* but *Pekka kirjoittaa kirjan*, with the accusative, means *Pekka will write a book*).¹

¹We are grateful to an anonymous Reviewer for these linguistic examples on the nuances hidden by the

In summary, even weak FTR languages sometimes prescribe to distinguish between past and present, and more generally, we observe a continuous spectrum of grammar rules' stringency to mark the future tense among different languages that escapes a crude dichotomous classification.

This is recognised by Chen himself who defines two alternative continuous indexes for the intensity of future reference, and concludes that the classification error embodied in the binary specification does not qualitatively affects his results. Indeed, [Chen](#) performs an on-the-web text-scraping analysis of weather forecasts in 39 languages, which represent a common example of prediction-based context of future events. Using the percentage of grammatical markers of future tense used in weather forecast sentences, the author finds a strong correlation with his weak/strong FTR language classification. We follow [Chen](#)'s classification to make our analysis comparable with the existing studies that adopt a binary partition of languages, such as [Galor et al. \(2020\)](#). In addition, as a robustness check, we adopt the alternative classification suggested by [Galor et al. \(2020\)](#) and [Mavisakalyan et al. \(2022, 2018\)](#) based on the distinction between the existence of an inflectional versus a periphrastic future tense. According to these contributions, speakers of non-inflectional languages should be long term orientated, as are the speakers of weak-FTR languages. In our sample, classifications based future marking and future reference differ only for two languages, i.e. English and Portuguese, that are non-inflectional, but not weak-FTR.

[Chen](#)'s work has attracted some skepticism among linguists. In particular, [Dahl \(2013\)](#) emphasizes a number of problematic aspects. The most important relates to the actual interpretation of the empirical correlation highlighted by the data. According to [Dahl](#), [Chen](#)'s analysis fails to solve one of the most important difficulties in the investigation of the effect of FTR on economic behaviour, i.e. the close connection of a language features with its speakers' culture of origin. For instance, most weak FTR languages are concentrated in Northern Europe, among those countries that [Inglehart and Welzel \(2010\)](#) define as Protestant Europe. A within country approach would be preferable to separate the effects of language and culture, but [Chen](#)'s small within-country estimation is based on countries where linguistic diversity is often related to the presence of disadvantaged or discriminated minorities, introducing the additional problem of disentangling the effect of language from that of discrimination. The approach of

dichotomy classification between strong and weak FTR languages.

this paper, similarly to [Galor et al. \(2020\)](#), represents a response to [Dahl](#)’s criticism since it provides a large scale within country analysis of the implications of the obligatoriness of future marking on economic behavior.

B The Swiss institutional and linguistic landscape

A distinctive characteristic of Switzerland is that its four official languages, German, French, Italian and Romansh have been spoken in the area for many centuries ([Pap, 1990](#)).² Today’s languages are the heirs of local Latin and Alemannic dialects and the multilingual nature of the country has been preserved over time as a result of the peculiar evolution of its political institutions, centred on cantons, i.e. mini-states jealous of their autonomy.³

This situation was eventually formalized and crystallised in the constitution of 1848, which established that German, French and Italian were the three official languages of the country, followed in 1938 by Romansh, spoken by about 40,000 residents at the time.⁴ The constitutional principle regulating multilingualism in Switzerland is the principle of territoriality ([Grin, 1999](#)) which states that cantons, within their boundaries, have the right to secure the extent and homogeneity of their language. In particular, each canton establishes its official language (in a few cases more than one, as we shall see below) to be used in all administrative affairs and in

²The first people that inhabited the area which is now Switzerland were Celtic tribes, the Helvetians to the West and the Rhaetians to the East, in particular in the current canton of Graubünden. The Romans occupied the area in the early first century CE and divided it between the provinces of the Gallia Belgica and Rhaetia. In the former province Latin mixed with Celtic dialects while the latter adopted the vulgar Latin. In 260 CE German Alemanni tribes invaded Helvetia (the Northern and North-Western part of the country) and the Burgundians advanced to the West. While the Alemanni preserved their Germanic language, the Burgundians adopted Latin. Among the Rhaetians the vulgar Latin slowly evolved into the current Romansh. After the Romans abandoned the area around 400 CE, the Romansh and German areas underwent some geographical alteration until they reached a stabilization of their western and southern frontiers around 1100. On the contrary, the Germanic-Romansh language boundary continued to move south-eastward from the 11th to the 15th century and stabilized only in 1464 when Chur, the capital town of Graubünden, was germanized. Since then, Romansh has been spoken only in a number of linguistic islands in a Germanic-speaking sea, and the number of speakers have continued to decline to this day ([Rash, 2002](#)).

³The initial three cantons that formed the Old Confederation in 1291 were all Alemannic speaking, as the additional 5 cantons that joined the confederation in 1353. In the following centuries other territories joined the league. Among the 13 original cantons that fought against the Emperor and won Swiss independence from the Empire in 1648, only Fribourg was French speaking. Overtime, a number of territories in the West and the South entered in the sphere of influence of the confederation and became either allies or subject territories. In these areas French and Italian languages were prevalent. Although the official language of the Old Confederation was Germanic, each canton or territory was free to preserve its own traditional language ([Pap, 1990](#)).

⁴Nowadays, we count about 60,000 Romansh speakers.

education. The stability of the language boundaries is also supported by the fact that Swiss media have a cantonal diffusion and adopt the canton's official language. This implies that, typically, immigrant residents tend to learn the canton's official language, although this does not necessarily entail abandoning their native tongue.⁵

Most cantons are monolingual, three are officially bilingual (German and French) - Fribourg, Valais and Bern - and one, Graubünden, is trilingual (German, Italian and Romansh). In the multilingual cantons citizens have the right of dealing with the cantonal authorities in any of the official languages. In Fribourg, Valais and Bern, the German and French zones are clearly separated. Hence education is offered in each zone's main language of use. In Graubünden, where the distribution of languages is more scattered, each municipality has the right to establish its own official language and the language of instruction ([Grin and Korth, 2005](#)).⁶

Typically, linguistic boundaries do not coincide with geographical, religious or cantonal boundaries. The Franco-German boundary, the so called *Rösti line*, follows geographical lines only in the Jura and in the Valais, while it develops in open and plain areas in the cantons of Bern and Fribourg ([Pap, 1990](#)). Protestantism and Catholicism are largely present in both French and German areas and, according to [Weiss \(1947\)](#), the cultural boundaries do not coincide with the language boundary.⁷ Eventually, the preservation of the peculiar patchwork of small linguistic areas in Switzerland, was granted by the equilibrium reached among the different Swiss communities which stand side by side in a context otherwise homogenous as regards values, economic development and political institutions.

⁵The constitutional setting contributed to preserve the language boundaries' stability after internal and external migration significantly increased in recent times ([Kuzelewska, 2016](#)).

⁶In Fribourg four districts are French-speaking, one is German-speaking and two are mixed. In Valais, the western part is francophone and the eastern part is German-speaking. After the secession of the French-speaking canton of Jura (1979), only a small proportion of the remaining territory of the canton of Bern (8 percent) is inhabited by French-speakers.

⁷More specifically, [Weiss](#) remarks that a clear cultural separation can be observed along the Brünig-Napf-Reuss line, between 50 to 100 km east of the Franco-German language boundary. The Brünig-Napf-Reuss line separates for instance the type of cards used to play a popular card game (Jass), Christmas and New Year's customs, and the breeds of cattle raised in the countryside. This line corresponds to the frontier between Burgundy and Alemannia in the Lower Middle Ages and pre-dates the formation of the modern linguistic communities.

C Appendix Tables

Table A1: Linguistic differences between German and French. WALS dataset

Category	French	German	Area
Genus	Romance	Germanic	
The Velar Nasal	No velar nasal	No initial velar nasal	Phonology
Vowel Nasalization	Contrast present	Contrast absent	Phonology
Fixed Stress Locations	Right-edge: Ultimate or penultimate	Right-oriented: One of the last three	Phonology
Weight-Sensitive Stress	Prominence	Coda consonant	Phonology
Weight Factors in Weight-Sensitive Stress Systems	Undetermined	Trochaic	Phonology
Exponence of Selected Inflectional Formatives	No case	Case + number	Morphology
Inflectional Synthesis of the Verb	4-5 categories per word	2-3 categories per word	Morphology
Locus of Marking in the Clause	No marking	Dependent marking	Morphology
Locus of Marking: Whole-language Typology	Inconsistent or other	Dependent-marking	Morphology
Number of Genders	Two	Three	Morphology
Plurality in Independent Personal Pronouns	Person-number stem + nominal plural affix	Person-number stem	Nominal Categories
The Associative Plural	No associative plural	Unique periphrastic associative plural	Nominal Categories
Pronominal and Adnominal Demonstratives	Different stem	Identical	Nominal Categories
Indefinite Pronouns	Generic-noun-based	Mixed	Nominal Categories
Number of Cases	No morphological case-marking	4 cases	Nominal Categories
Asymmetrical Case-Marking	No case-marking	Syncretism in relevant NP-types	Nominal Categories
Position of Case Affixes	Prepositional clitics	Case suffixes	Nominal Categories
Ordinal Numerals	First, second, three-th	First, two-th, three-th	Nominal Categories
Distributive Numerals	No distributive numerals	Marked by preceding word	Nominal Categories
Perfective/Imperfective Aspect	Grammatical marking	No grammatical marking	Verbal Categories
The Future Tense	Inflectional future exists	No inflectional future	Verbal Categories
Suppletion According to Tense and Aspect	Tense and aspect	Tense	Verbal Categories
Order of Subject, Object and Verb	SVO	No dominant order	Word Order
Order of Object and Verb	VO	No dominant order	Word Order
Order of Object, Oblique, and Verb	VOX	No dominant order	Word Order
Order of Adjective and Noun	Noun-Adjective	Adjective-Noun	Word Order
Position of Polar Question Particles	Initial	No question particle	Word Order
Relationship between the Order of Object and Verb and the Order of Adposition and Noun Phrase	VO and Prepositions	Other	Word Order
Alignment of Case Marking of Full Noun Phrases	Neutral	Nominative - accusative (standard)	Simple Clauses
Nonperiphrastic Causative Constructions	Both	Morphological but no compound	Simple Clauses
Negative Indefinite Pronouns and Predicate Negation	Mixed behaviour	No predicate negation	Simple Clauses
Polar Questions	Question particle	Interrogative word order	Simple Clauses
Purpose Clauses	Deranked	Balanced/deranked	Complex Sentences
Reason Clauses	Balanced/deranked	Balanced	Complex Sentences
SVNegO Order	OptDoubleNeg	No SVNegO	Word Order
Position of Negative Word With Respect to Subject, Object, and Verb	OptDoubleNeg	More than one position	Word Order
SNegVO Order	OnlyWithAnotherNeg	No SNegVO	Word Order
SVONeg Order	No SVONeg	NoDoubleNeg	Word Order
Position of negative words relative to beginning and end of clause and with respect to adjacency to verb	Immed postverbal	End, not immed postverbal	Word Order
Order of Negative Morpheme and Verb	OptDoubleNeg	Type 1 / Type 2	Word Order

¹ Linguistic differences between German and French according to the classification of linguistic features provided by the World Atlas of Language Structures (WALS).

Table A2: Linguistic differences between German and Italian. WALS dataset

Category	Italian	German	Area
Genus	Romance	Germanic	Phonology
Fixed Stress Locations	Right-edge: Ultimate or penultimate	Right-oriented: One of the last three	Phonology
Weight-Sensitive Stress	Lexical stress	Coda consonant	Phonology
Weight Factors in Weight-Sensitive Stress Systems	Undetermined	Trochaic	Phonology
The Associative Plural	No associative plural	Unique periphrastic associative plural	Nominal Categories
Distance Contrasts in Demonstratives	Two-way contrast	No distance contrast	Nominal Categories
Indefinite Pronouns	Generic-noun-based	Mixed	Nominal Categories
Number of Cases	No morphological case-marking	4 cases	Nominal Categories
Asymmetrical Case-Marking	Additive-quantitatively asymmetrical	Syncretism in relevant NP-types	Nominal Categories
Position of Case Affixes	No case affixes or adpositional clitics	Case suffixes	Nominal Categories
Ordinal Numerals	First, second, three-th	First, two-th, three-th	Nominal Categories
The Prohibitive	Special imperative + normal negative	Normal imperative + normal negative	Verbal Categories
Order of Subject, Object and Verb	SVO	No dominant order	Word Order
Order of Subject and Verb	No dominant order	SV	Word Order
Order of Object and Verb	VO	No dominant order	Word Order
Order of Adjective and Noun	Noun-Adjective	Adjective-Noun	Word Order
Relationship between the Order of Object and Verb and the Order of Adposition and Noun Phrase	VO and Prepositions	Other	Word Order
Expression of Pronominal Subjects	Subject affixes on verb	Obligatory pronouns in subject position	Simple Clauses
Negative Indefinite Pronouns and Predicate Negation	Mixed behaviour	No predicate negation	Simple Clauses
Polar Questions	Interrogative intonation only	Interrogative word order	Simple Clauses
Purpose Clauses	Deranked	Balanced/deranked	Complex Sentences
Reason Clauses	Balanced/deranked	Balanced	Complex Sentences
Para-Linguistic Usages of Clicks	Logical meanings	Affective meanings	Other
Postverbal Negative Morphemes	None	VNeg	Word Order
Position of Negative Word With Respect to Subject, Object, and Verb	SNegVO	More than one position	Word Order
SNegVO Order	Word & NoDoubleNeg	No SNegVO	Word Order
SVONeg Order	No SVONeg	NoDoubleNeg	Word Order
Position of negative words relative to beginning and end of clause and with respect to adjacency to verb	Immed preverbal	End, not immed postverbal	Word Order
Order of Negative Morpheme and Verb	NegV	Type 1 / Type 2	Word Order

¹ Linguistic differences between German and Italian according to the classification of linguistic features provided by the World Atlas of Language Structures (WALS).

Table A3: Baseline estimates with inflectional vs non-inflectional future classification of languages

	(1) Stayers	(2) Switchers	(3) Switchers	(4) Pooled	(5) Pooled
Non inflectional future	0.0380*** (0.0123)	0.0210*** (0.00670)	0.0201*** (0.00617)	0.0215** (0.00880)	0.0210*** (0.00644)
Switcher				0.0368*** (0.00563)	0.0310*** (0.00503)
Non inflectional $\times$ Switcher				-0.0107 (0.0113)	-0.00988 (0.00782)
Observations	120,964	156,930	156,930	277,894	277,894
R-squared	0.047	0.045	0.047	0.044	0.048
Mean dep. var.	0.10	0.13	0.13	0.12	0.12
Individual controls	YES	YES	YES	YES	YES
Religion dummies	YES	YES	YES	YES	YES
Linguistic features	YES			YES	YES
GPS cult. dimensions	YES	YES		YES	
Self-empl. in birth-country	YES	YES		YES	
District FE	YES	YES	YES	YES	YES
Country of origin FE			YES		YES

¹ Standard errors, clustered at the country of origin, Swiss linguistic area and spoken language level, in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

² The dependent variable in all specifications is *Self-Employed*, a dummy equal to 1 if *i* reports to be self-employed.

³ *Non-inflectional future* is a dummy equal to 1 if *i*'s main spoken language has a non-inflectional future tense.

⁴ The specification for all regressions includes Swiss district of residence fixed effects.

⁵ *Switcher* is a dummy equal to 1 if *i* substituted his or her mother tongue with one of the four Swiss native languages as main language of daily use.

⁶ Individual controls: gender, age, age squared, marital status, number of children in household; Swiss citizenship and a dummy for higher than secondary education.

⁷ Linguistic features: presence of i) markers for past tense, ii) gender-based system, iii) politeness distinctions, iv) present perfect tense.

⁸ Global Preference Survey cultural dimensions: risk-taking, patience, positive reciprocity, negative reciprocity, altruism, trust.

⁹ Self-employment in birth-country: proportion of self-employed in country of origin in 2000 (source: World Bank).

Table A4: Descriptive statistics by country of origin

Country	frequency	language	share switchers to:		share	share	share	share self-employed in:	
		FTR	weak FTR	strong FTR	tert. education	low-skilled occ.	self-employed	low-skill. occ.	high-skill. occ.
Cambodia	581	-	0.58	0.42	0.43	0.12	0.12	0.19	0.11
Chile	2,674	Strong	0.14	0.33	0.36	0.17	0.08	0.06	0.08
China	2,155	Weak	0.24	0.09	0.24	0.19	0.16	0.16	0.16
Denmark	958	Weak	0.85	0.15	0.53	0.13	0.18	0.09	0.19
Finland	1,720	Weak	0.36	0.05	0.42	0.12	0.14	0.05	0.16
Former Yugoslavia	44,455	Strong	0.81	0.19	0.31	0.16	0.10	0.07	0.10
Greece	3,121	Strong	0.28	0.12	0.26	0.16	0.17	0.09	0.18
Hungary	5,131	Strong	0.57	0.11	0.46	0.11	0.25	0.15	0.26
India	2,091	Strong	0.53	0.15	0.31	0.09	0.15	0.14	0.15
Iran	2,208	Strong	0.27	0.32	0.28	0.13	0.21	0.19	0.22
Israel	823	Strong	0.34	0.20	0.39	0.11	0.28	0.25	0.28
Japan	1,201	Weak	0.22	0.08	0.27	0.15	0.19	0.16	0.20
Lebanon	1,887	Strong	0.20	0.43	0.27	0.12	0.25	0.23	0.25
Netherlands	8,128	Weak	0.45	0.10	0.40	0.11	0.19	0.11	0.21
Oceania	1,604	Strong	0.38	0.12	0.43	0.10	0.17	0.14	0.17
Other Africa	17,182	-	0.23	0.65	0.32	0.15	0.13	0.09	0.14
Other America	14,190	-	0.28	0.27	0.33	0.18	0.13	0.08	0.14
Other Asia	10,109	-	0.59	0.22	0.24	0.18	0.11	0.08	0.12
Poland	2,610	-	0.76	0.24	0.45	0.11	0.17	0.09	0.17
Portugal	56,396	Strong	0.04	0.31	0.13	0.29	0.05	0.03	0.06
Romania	2,393	Strong	0.31	0.41	0.29	0.10	0.18	0.14	0.18
Spain	37,576	Strong	0.09	0.25	0.25	0.22	0.09	0.06	0.10
Sweden	2,844	Weak	0.32	0.13	0.35	0.09	0.19	0.14	0.19
Turkey	26,565	Strong	0.31	0.07	0.20	0.12	0.13	0.12	0.13
United Kingdom	10,648	Strong	0.19	0.11	0.32	0.07	0.17	0.11	0.18
United States	7,323	Strong	0.35	0.14	0.24	0.05	0.21	0.18	0.22
Vietnam	4,376	Strong	0.24	0.29	0.33	0.10	0.13	0.17	0.12
Former Czechoslovakia	6,945	Strong	0.62	0.08	0.46	0.09	0.22	0.13	0.23
Total	277,894		0.33	0.24	0.27	0.18	0.12	0.07	0.13

¹ Number of first generation immigrants in our sample, by country of birth, and: (i) FTR of main language in country; shares of switchers to (ii) weak and (iii) strong FTR Swiss native languages; (iv) share of self-employed; (v) share with at least a college degree; (vi) share working in low-skilled occupations (ISCO categories 5 and 9); (vii) share of self-employed; shares of self-employed in (viii) low and (ix) high-skilled occupations.

Table A5: GPS Cultural dimensions and language future time reference, cross-country analysis

	(1) Weak FTR	(2) Weak FTR	(3) Weak FTR	(4) Weak FTR	(5) Weak FTR	(6) Weak FTR	(7) Weak FTR
Patience	0.483*** (0.175)						0.610*** (0.191)
Will. to take risks		-0.0141 (0.235)					-0.412 (0.281)
Positive reciprocity			-0.102 (0.118)				-0.275 (0.196)
Negative reciprocity				-0.0668 (0.193)			-0.132 (0.193)
Altruism					0.0463 (0.138)		0.226 (0.212)
Trust						0.111 (0.212)	0.0916 (0.154)
Observations	52	52	52	52	52	52	52
R^2	0.698	0.596	0.603	0.598	0.598	0.600	0.755
Continent FE	YES	YES	YES	YES	YES	YES	YES
Geograph. and Instit. controls	YES	YES	YES	YES	YES	YES	YES

¹ The dependent in all specifications is *Weak FTR*, a dummy equal to 1 if the main spoken language in the country does not prescribe the use of future tense in prediction-based contexts.

² Robust standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

³ Geographic and institutional controls: legal origin dummies (ref. Uk legal origin), Old World dummy, geographic variables (latitude, land quality, elevation, temperature, precipitation, distance to waterways, percentage of arable land), genetic diversity index.

Table A6: Hofstede Cultural dimensions and language future time reference, cross-country analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Weak FTR	Weak FTR	Weak FTR	Weak FTR	Weak FTR	Weak FTR	Weak FTR
Long-term orientation	0.00912*** (0.00262)						0.0121** (0.00465)
Uncertainty avoidance		-0.00309 (0.00510)					0.00294 (0.00782)
Individualism			0.00556 (0.00426)				0.000620 (0.00693)
Power distance				-0.00566 (0.00435)			-0.00442 (0.00717)
Masculinity					0.00217 (0.00301)		-0.000504 (0.00555)
Indulgence vs restraint						0.00458 (0.00395)	0.00603 (0.00419)
Observations	49	39	39	39	39	48	36
R^2	0.678	0.719	0.731	0.728	0.715	0.615	0.826
Continent FE	YES	YES	YES	YES	YES	YES	YES
Geograph. and Instit. controls	YES	YES	YES	YES	YES	YES	YES

¹ The dependent in all specifications is *Weak FTR*, a dummy equal to 1 if the main spoken language in the country does not prescribe the use of future tense in prediction-based contexts.

² Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1).

³ Geographic and institutional controls: legal origin dummies (ref. Uk legal origin), Old World dummy, geographic variables (latitude, land quality, elevation, temperature, precipitation, distance to waterways, percentage of arable land), genetic diversity index.

Table A7: Baseline estimates - control for Hofstede's cultural dimensions

	(1) Stayers	(2) Switchers	(3) Switchers	(4) Pooled	(5) Pooled
Weak FTR	0.0786*** (0.0174)	0.0182** (0.00901)	0.0201*** (0.00713)	0.0649*** (0.0146)	0.0447*** (0.0113)
Switcher				0.0307*** (0.00472)	0.0291*** (0.00423)
Weak FTR $\times$ Switcher				-0.0580*** (0.0165)	-0.0331*** (0.0120)
Observations	120,964	156,930	156,930	277,894	277,894
R-squared	0.047	0.043	0.047	0.044	0.048
Mean dep. var.	0.10	0.13	0.13	0.12	0.12
Individual controls	YES	YES	YES	YES	YES
Religion dummies	YES	YES	YES	YES	YES
Linguistic features	YES			YES	YES
Hofstede's cult. dimensions	YES	YES		YES	
Self-empl. in birth-country	YES	YES		YES	
District FE	YES	YES	YES	YES	YES
Country of origin FE			YES		YES

¹ Standard errors, clustered at the country of origin, Swiss linguistic area and spoken language level, in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

² The dependent variable in all specifications is *Self-Employed*, a dummy equal to 1 if *i* reports to be self-employed.

³ *Weak FTR* is a dummy equal to 1 if *i*'s main spoken language does not prescribe the use of future tense in prediction-based contexts.

⁴ The specification for all regressions includes Swiss district of residence fixed effects.

⁵ *Switcher* is a dummy equal to 1 if *i* substituted his or her mother tongue with one of the four Swiss native languages as main language of daily use.

⁶ Individual controls: gender, age, age squared, marital status, number of children in household; Swiss citizenship and a dummy for higher than secondary education.

⁷ Linguistic features: presence of i) markers for past tense, ii) gender-based system, iii) politeness distinctions, iv) present perfect tense.

⁸ Hofstede's cultural dimensions: uncertainty avoidance, long-term orientation, individualism, power distance, masculinity and indulgence.

⁹ Self-employment in birth-country: proportion of self-employed in country of origin in 2000 (source: World Bank).

Table A8: Sample of Swiss natives

	(1) Switzerland	(2) Multilingual Cantons	(3) Linguistic Border
Weak FTR	0.0224*** (0.00329)	0.0346*** (0.00680)	0.0325*** (0.00873)
Observations	2,185,035	496,893	153,267
R-squared	0.044	0.048	0.044
Individual controls	YES	YES	YES
Religion dummies	YES	YES	YES
District FE	YES	YES	YES
District of Birth FE	YES	YES	YES

¹ Standard errors, clustered at the level of district of birth, Swiss linguistic area and spoken language, in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

² The sample is composed of all individuals who are born in Switzerland, have Swiss citizenship and speak a Swiss language.

³ The dependent variable in all specifications is *Self-Employed*, a dummy equal to 1 if *i* reports to be self-employed.

⁴ *Weak FTR* is a dummy equal to 1 if *i*'s main spoken language does not prescribe the use of future tense in prediction-based contexts.

⁵ The specification for all regressions includes Swiss district of residence and Swiss district of birth fixed effects.

⁶ Individual controls: gender, age, age squared, marital status, number of children in household and a dummy for higher than secondary education.

References

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