DISCUSSION PAPER SERIES

No. 9441

THE CAUSAL IMPACT OF COMMON NATIVE LANGUAGE ON INTERNATIONAL TRADE: EVIDENCE FROM A SPATIAL REGRESSION DISCONTINUITY DESIGN

Peter Egger and Andrea Lassmann

INTERNATIONAL TRADE AND REGIONAL ECONOMICS



Centre for Economic Policy Research

www.cepr.org

Available online at:

www.cepr.org/pubs/dps/DP9441.asp

THE CAUSAL IMPACT OF COMMON NATIVE LANGUAGE ON INTERNATIONAL TRADE: EVIDENCE FROM A SPATIAL REGRESSION DISCONTINUITY DESIGN

Peter Egger, ETH Zurich (KOF Swiss Economic Institute), CESifo, WIFO and CEPR Andrea Lassmann, ETH Zurich (KOF Swiss Economic Institute)

Discussion Paper No. 9441 April 2013

Centre for Economic Policy Research 77 Bastwick Street, London EC1V 3PZ, UK Tel: (44 20) 7183 8801, Fax: (44 20) 7183 8820 Email: cepr@cepr.org, Website: www.cepr.org

This Discussion Paper is issued under the auspices of the Centre's research programme in **INTERNATIONAL TRADE AND REGIONAL ECONOMICS**. Any opinions expressed here are those of the author(s) and not those of the Centre for Economic Policy Research. Research disseminated by CEPR may include views on policy, but the Centre itself takes no institutional policy positions.

The Centre for Economic Policy Research was established in 1983 as an educational charity, to promote independent analysis and public discussion of open economies and the relations among them. It is pluralist and non-partisan, bringing economic research to bear on the analysis of medium- and long-run policy questions.

These Discussion Papers often represent preliminary or incomplete work, circulated to encourage discussion and comment. Citation and use of such a paper should take account of its provisional character.

Copyright: Peter Egger and Andrea Lassmann

April 2013

ABSTRACT

The Causal Impact of Common Native Language on International Trade: Evidence from a Spatial Regression Discontinuity Design*

This paper studies the causal effect of sharing a common native language on international trade. Switzerland is a multilingual country that hosts four official language groups of which three are major (French, German, and Italian). These groups of native language speakers are geographically separated, with the corresponding regions bordering countries which share a majority of speakers of the same native language. All of the three main languages are understood and spoken by most Swiss citizens, especially the ones residing close to internal language borders in Switzerland. This unique setting allows for an assessment of the impact of common native (rather than spoken) language as a cultural aspect of language on trade from within country-pairs. We do so by exploiting the discontinuity in various international bilateral trade outcomes based on Swiss transaction-level data at historical language borders within Switzerland. The effect on various margins of imports is positive and significant. The results suggest that, on average, common native language between regions biases the regional structure of the value of international imports towards them by 18 percentage points and that of the number of import transactions by 20 percentage points. In addition, regions import 102 additional products from a neighboring country sharing a common native language compared to a different native language exporter. This effect is considerably lower than the overall estimate (using aggregate bilateral trade and no regression discontinuity design) of common official language on Swiss international imports in the same sample. The latter subsumes both the effect of common spoken language as a communication factor and of confounding economic and institutional factors and is quantitatively well in line with the common official (spoken or native) language coefficient in many gravity model estimates of international trade.

JEL Classification: C14, C21, F14, R12 and Z10 Keywords: common language, culture, international trade, quasi-randomized experiments and regression discontinuity design Peter Egger ETH Zürich KOF Swiss Economic Institute Weinbergstrasse 35 8092 Zurich SWITZERLAND Andrea Lassmann ETH Zurich KOF Swiss Economic Institute Weinbergstrasse 35 8092 Zurich SWITZERLAND

Email: egger@kof.ethz.ch

For further Discussion Papers by this author see: www.cepr.org/pubs/new-dps/dplist.asp?authorid=154525 Email: lassmann@kof.ethz.ch

For further Discussion Papers by this author see: www.cepr.org/pubs/new-dps/dplist.asp?authorid=171019

*We thank the Swiss Federal Customs Administration for generously providing data on trade transactions and the Swiss Federal Statistical Office for providing data on language use. We further thank Raphael Auer, Christoph Basten, Claudia Bernasconi, Paola Conconi, Andreas Fischer, Taiji Furusawa, Victor Ginsburgh, James Harrigan, Jota Ishikawa, Michaela Kesina, Veronika Killer, Mariko Klasing, Jacob LaRiviere, Thierry Mayer, Jacques Melitz, William S. Neilson, Harald Oberhofer, Emanuel Ornelas, Raphaël Parchet, Mathieu Parenti, Philip Sauré, Georg Schaur, Jan Schymik, René Sieber, Daniel Sturm, Mathias Thoenig, Farid Toubal, Christian Volpe Martincus, and Hannes Winner for numerous useful comments. We benefited from comments of participants at the Annual Conference of the Canadian Economics Association 2011, the SSES Annual Meeting 2011, the 26th Annual European Economic Association Congress 2011, European Trade Study Group 2011, the Young Swiss Economists Meeting 2012, the Spring Meeting of Young Economists 2012, the Annual Meeting of the Austrian Economic Association 2012, the Brixen Workshop & Summer School on International Trade and Finance 2012, the HSE Center for Market Studies and Spatial Economics at St. Petersburg 2012, the Heriot-Watt University at Edinburgh 2012, the Inter-American Development Bank 2012, the Swiss National Bank 2012, the University of Heidelberg 2013, the University of Tennessee at Knoxville 2012, the CEPR Conference on Causal Analysis in International Trade 2013, the Hitotsubashi University Winter International Trade Seminar, the University of Salzburg 2013, the London School of Economics 2013, and the 13th Research in International Trade and International Finance meetings at Paris I University 2013.

Submitted 15 April 2013

1 Introduction

This paper revolves around three pertinent questions in economics. First, why is consumption so much biased towards domestic goods? Second, why are imports so much biased towards similar countries? Third, what is the economic value of common culture?¹ The question of key interest to this paper is to which extent common language as a measure cultural proximity affects international trade.

The overall quantitative effect (and even the channels of influence) of a common language on trade is well studied in empirical international economics. Trade economists usually estimate the impact of common language on bilateral trade from gravity model regressions of the following general form:

$$M_{ij} = e^{\lambda \text{language}_{ij}} d_{ij} \mu_i m_j u_{ij}, \tag{1}$$

where M_{ij} measures bilateral trade (imports) of country j from country i, language_{ij} is a binary indicator variable which is unity whenever two countries have the same official language and zero else, λ is an unknown but estimable parameter on language_{ij}, d_{ij} is the joint impact of other measurable bilateral trade-impeding or trade-enhancing factors (such as bilateral distance or trade agreement membership) on bilateral trade, μ_i and m_j are exporter- and importer-specific factors of influence (such as GDP, price indices, etc.), and u_{ij} is a country-pair-specific remainder error term. λ should be interpreted as a direct effect of common language on bilateral trade in terms of a semi-elasticity.² A key problem with this identification strategy is that λ may be biased due to omitted confounding cultural, institutional, and political factors in u_{ij} beyond the usually employed trade cost variables in d_{ij} that are correlated with language_{ij} (see Egger and Lassmann, 2012, for a meta-analysis of the common

¹The first question is one of Obstfeld and Rogoff's (2001) six major puzzles in international macroeconomics. The second one is the very root of new trade theory as developed in Krugman (1980). The last question is at the heart of a young literature which aims at quantifying the role of preferences for economic outcomes (see Guiso, Sapienza, and Zingales, 2006, for a survey).

²New trade models suggest that λ is not a marginal effect or a semi-elasticity of trade but only a *direct* or *immediate* effect, since μ_i and m_j depend on language_{ij} as well (see Krugman, 1980; Helpman and Krugman, 1985; Eaton and Kortum, 2002; Anderson and van Wincoop, 2003; Melitz, 2003; or Helpman, Melitz, and Rubinstein, 2008, for such models). We leave this issue aside here since we are primarily interested in estimating the parameter on common native language rather than the corresponding semi-elasticity of trade consistently. In principal, the estimate of this parameter may then serve as an input to assess general equilibrium effects of language_{ij} depending on the assumed model structure. In all of the aforementioned models, Armington-type preferences and iceberg-type bilateral trade costs exhibit an isomorphic impact on trade flows (see Anderson and van Wincoop, 2004). Hence, preference-related and transaction-cost-related effects of common language on trade are inherently indistinguishable.

language effect on trade which points to the importance of such confounding factors in related empirical work). As a consequence, λ cannot be interpreted as a causal direct treatment effect of language on trade.³ Moreover, Melitz and Toubal (2012) point out that λ reflects a weighted impact of *spoken language* as a mere vehicle of communication and *native language* as a contextual cultural factor, rendering the interpretation of λ difficult.⁴ The present paper is devoted to estimating the direct effect of common native language as a measure of cultural proximity rather than spoken language as a means of communication.

We contribute to the literature on common language and trade by utilizing a quasi-experimental design. The causal role of a common native language on trade can be estimated from utilizing the discontinuity of native language in a small neighborhood around internal historical language borders in Switzerland together with information on trade between a spatial unit in Switzerland and a country of origin. This strategy obtains an estimate of λ_{CNL} which may be interpreted as a *local* average direct (and causal) treatment effect of common native language on bilateral (country-to-Swiss-zip-code) imports. Estimates in this study amount to about 0.18 for the value share of import transactions and to about 0.20 for the share of numbers of import transactions. The corresponding semi-elasticities to those parameters are 0.28 for the log (positive) import value and 0.31 for the log number of transactions. The comparable naïve (non-causal) impact of common official language on trade in the data is much larger. The naïve estimate of common official language between Swiss zip codes and all countries (adjacent and non-adjacent) in the data at hand amounts to 0.99 for the log import value and to 0.81 for the log number of import transactions.⁵ With adjacent exporter countries only – Austria, France, Germany,

³For instance, such confounding factors are the religious orientation (see Helpman, Melitz, and Rubinstein, 2008) or common culture and institutions (see Greif, 1989, 1993; Casella and Rauch, 2002; Rauch and Trindade, 2002; and Guiso, Sapienza, and Zingales, 2006).

⁴Technically, one could refer to a variable reflecting common spoken language by CSL_{ij} and one reflecting common native language by CNL_{ij} . Then, one could replace $e^{\lambda \text{language}_{ij}}$ in (1) by $e^{\lambda_{CNL}\text{CNL}_{ij}}e^{\lambda_{CSL}\text{CSL}_{ij}}$. This illustrates that λ in traditional models reflects a weighted average of effects of native and spoken language.

⁵Common official language is the measure of common language which is typically used in the literature (see Egger and Lassmann, 2012). The estimates are based on Poisson pseudo-maximumlikelihood regressions of positive import flows ($M_{ij} > 0$) and, alternatively, the number of import transactions on the following covariates: common language which is coded as one whenever a foreign country uses the majoritarian native language of a Swiss zip code as an official language and zero else; log geographical distance between a Swiss zip code and the capital of the foreign export country of origin of Swiss imports; and a full set of fixed zip code effects (there are 3,079 zip codes) and fixed exporting country of origin effects (there are 220 countries of origin). The total number of zip code by country observations with positive bilateral imports in those regressions is 153, 256. Notice that those regressions may be viewed as one part of two-part models which

and Italy, yet excluding Liechtenstein which does not collect its own trade data but forms part of Switzerland's trade statistics – these effects amount to 1.21 for import value and 0.68 for the number of transactions in the data at hand.⁶ Using exactly the same zip codes that are used for identification of the causal effect of common native language – their number amounts to 1,485 – , the naïve estimates amount to 0.97 for import value and to 0.75 for the number of import transactions. Hence, a relatively small fraction of the naïve (non-causal) estimate of λ accrues to common native language as a measure of cultural proximity. In our data, less than one-third of the naïve λ parameter for import value and about 40% of the one for the number of import transactions is attributable to cultural proximity. The rest is either due to bias (owing to omitted confounding factors) or to spoken language as a mere vehicle of communication. From this perspective, earlier estimates on the effect of common language on trade should not be interpreted as economic effects of cultural proximity alone.

The remainder of the paper is organized as follows. The next section provides some institutional background supporting the use of internal native language zone boundaries in Switzerland as instruments for causal inference about language-borne effects of common culture on international trade. Section 3 relates ours to earlier work on the impact of a common language on bilateral trade. Section 4 provides details about the data-set and descriptive statistics for core variables of interest. Section 5 outlines briefly the spatial regression discontinuity design for the data at hand, summarizes the results, and assesses their robustness. The last section concludes by summarizing the key insights.

2 Native languages as cultural traits in Switzerland

The paper adopts an identification strategy which differs from previous work by exploiting data on native language differences *within* a country, Switzerland, and (transaction-level) data on imports of different language zones in Switzerland with other countries. That said, we should emphasize that Switzerland is not just another country where several languages are spoken (see Melitz and Toubal, 2012,

distinguish between the margin referring to whether there are any imports at all and other margins which we focus on (see Egger, Larch, Staub, and Winkelmann, 2011).

⁶Recall that nothing of that effect could be explained by common official language because all adjacent countries' official languages are also official languages of Switzerland. And little should be explained by spoken languages (which at the required detailed geographical level cannot be measured) for the arguments given in Footnote 2.

for descriptive evidence on multi-linguality on the globe). Switzerland consists of four language communities – German, French, Italian, and Romansh (ordered by the number of speakers) – that mainly reside in geographically distinct areas whose internal borders have deep historical roots. According to the Census of the Swiss Federal Statistical Office from 2000, German is the native language of roughly 4,640,400 speakers, French that of roughly 1,485,100 speakers, Italian of about 471,000 speakers, and Romansh of about 35,100 speakers.⁷ Except for Romansh, all languages are main national tongues (the official and main native languages) in countries adjacent to Switzerland.⁸ Among Switzerland's five neighboring countries, German is the official language in Germany, Austria, and Liechtenstein, French is the official language of France, and Italian the one of Italy such that everyone of the three main languages of Switzerland is the single official language spoken in at least one of the adjacent countries as shown in Figure 1. In fact, none of Switzerland's neighboring countries has an official (or main native) language beyond the three aforementioned tongues. These languages are important among the 6,909 known languages spoken worldwide at our time. German ranks 10th among the native languages spoken worldwide (90.3 million speakers), French ranks 16th (67.8 million speakers), and Italian ranks 19th (61.7 million speakers).⁹ Every student in a Swiss school has to learn a second language of the country mostly from third grade and, in some German-speaking cantons, from fifth to seventh grade onwards. Swiss pupils learn a third language from fifth to seventh grade onwards, and Swiss citizens are supposed to understand if not speak all three main tongues. In any case, residents close to internal language borders tend to speak the main native languages on either side of an internal border particularly well.¹⁰

⁷One may distinguish between five main dialects of Romansh (*Bündnerromanisch*) and consider the official Romansh an artificial language.

⁸Whether the three languages Swiss (Bündner-)Romansh and the Ladin and Friulian – spoken in the Alps of northern Italy – form three subgroups of a common Rhaeto-Roman language or not is a controversial question in linguistic research (*questione ladina*, see Bossong, 2008; and Liver, 2010). In any case, the Romansh regions in Switzerland and northern Italy do neither share common borders nor do they share obvious common socio-linguistic or historic roots as the French-, German-, and Italian-speaking regions of Switzerland do with their respective neighboring countries. Since Romansh was never the official language of a state or country in modern history and there is no large-enough foreign language base so as to identify specific language-related trade ties, we will not consider the Romansh language boundaries in our analysis and exclude the corresponding regions and data in the regression analysis.

⁹According to Lewis (2009), the top five native languages on the globe are: Chinese (1,213 million speakers), Spanish (329 million speakers), English (328 million speakers), Arabic (221 million speakers), and Hindi (182 million speakers).

¹⁰French-speaking cantons teach German as the second language, Ticino teaches French as the second language, Graubünden teaches one of the three languages – German, Italian, or Romansh

All of that leaves the issue at stake in this paper not one of common official language in very broad terms, and also not one of spoken language as such, but mainly one of common native language as a measure of cultural proximity. Of course, the notion of native language does not just refer to linguistic proficiency but entails persistent common cultural traits and preferences that individuals and regions speaking a common language share. In particular, a common native language generates trust, knowledge of cultural habits and social norms of interaction and, through this channel, stimulates economic exchange beyond the impact of spoken language in a narrow sense on trade. Our definition of language will thus refer to the concept of common native language as a measure of cultural proximity rather than to the concept of mere language proficiency and ability to speak.¹¹

– Figure 1 about here –

The geographical pattern of agglomeration of native speakers with different language background in Switzerland is strong and can best be visualized on a map of the country as in Figure 2. Each of the four colors corresponds to one language spoken by the majority (at least 50%) of inhabitants in a Swiss municipality.¹² Of course, using a majoritarian rule to cut native language zones would be misleading if today's language borders were largely different from the historical ones or the discontinuity about language usage were rather smooth at the majority-based language borders. It turns out that historical and majority-rule-based language borders are the same (see Figure 3), and we will illustrate below that there is a clear (though not a sharp) discontinuity about the main native language within relatively narrow spatial intervals around the Swiss internal historical language borders. We will utilize exactly this discontinuity to infer the causal impact of language on measures of international trade transactions of small spatial units.

– Figure 2 about here –

⁻ as the second language, and the following six of the 21 (mostly) German-speaking cantons teach French as the second language: Bern, Basel-Landschaft, Basel Stadt, Fribourg, Solothurn, and Valais. The other cantons teach English as the second language (Source: EDK Swiss Conference of Cantonal Ministers of Education).

¹¹The deep cultural aspect particularly of native language was emphasized in anthropology (e.g., the work of Franz Boas), linguistics (e.g., in Benjamin Whorf's concept of linguistic relativity) and philosophy (e.g., the work of Johann Gottfried Herder, Wilhelm von Humboldt, or Ludwig Wittgenstein).

¹²While we use zip codes in the regression analysis, we employ municipality aggregates of zip codes in some of the graphical analysis for reasons of presentation.

It is worth emphasizing that language borders within Switzerland do not always coincide with the ones of *Cantons* which have some economic and political autonomy (e.g., with regard to setting profit tax rates, etc.).¹³ As will become clear below, by isolating spatial units of different native language majority *within* cantons we may condition on most economic, institutional, and political factors that may change at cantonal borders (certainly, in comparison to country-level studies; see also Brügger, Lalive, and Zweimüller, 2009; Eugster and Parchet, 2011).¹⁴

– Figure 3 about here –

The use of transaction-level data with spatial information is essential to our analysis for two reasons. First, it allows us to geo-spatially identify the location of importers within Switzerland. This is essential to determine the majoritarian native language zone an importer resides in as well as her distance to the respective language border within Switzerland. Second, it reveals novel insights into the impact of common native language on alternative margins of trade such as the number of bilateral transactions and the number of products traded as examples of extensive margins, versus the value per transaction or the unit value as examples of intensive margins. The latter may be useful to determine whether language is mainly a determinant of variable trade costs (as is commonly assumed; see Egger and Lassmann, 2012) or of fixed trade costs.

The results in this study can be summarized as follows. Suppose we were interested in the size of the discontinuity of the average of the three considered native languages spoken in Switzerland at the intra-Swiss language borders. Then, we would have

¹³Politically, cantons can be compared to what are called *States* in the United States and *Länder* in Germany. The Swiss Federation consists of 26 cantons which joined the country sequentially between 1291 (the foundation of inner Switzerland by the four German-speaking so-called *Urkantone*) and 1815 (when the Congress of Vienna established independence of the Swiss Federation and when the French-speaking cantons Genève, Valais, and Neuchâtel joined the Federation, consisting of 22 cantons by then). In 1979, the French-speaking canton Jura separated from the canton of Berne and constituted the 26th canton (with six half-cantons that became full cantons as of the Constitution of 1999: *Appenzell-Ausserrhoden*, *Appenzell-Innerrhoden*, *Basel-Stadt*, *Basel-Landschaft*, *Nidwalden*, and *Obwalden*).

¹⁴In contrast to other studies exploiting language differences within Switzerland, we think of native language borders as to entail a fuzzy identification design. Most (but even not all) individuals have *one* native language. Yet, spatial aggregates host fractions of individuals of different native language. Hence, native language borders do not generate a sharp design: there are German native speakers on either side of the German-French border in Switzerland and the same is true for French native speakers, etc. It has been neglected in earlier work that this calls for suitable identification strategies (such as instrumental variable estimation) in order to render estimated discontinuities at language borders interpretable as (causal) local average treatment effects.

to consider the degree of fuzziness of native language: native German speakers on the German-speaking versus the French-speaking (or Italian-speaking) side of the language borders within Switzerland. If native language use jumped from zero (on the untreated side) to one(-hundred percent; on the treated side) we would have a sharp design. It turns out that this discontinuity is not one but about 0.66 (across all three native language usages and regions in Switzerland within a close enough distance around internal language borders). Hence, we could say that the degree of fuzziness in the data amounts to about 34%. The estimated cultural bias on trade induced by common native language is estimated at 0.18 for import value and at 0.20 for the number of import transactions. Hence, an increase in common native language similarity by 100 percent raises the import value share from countries with that native language by about 18 percentage points and that of the number of import transactions by about 20 percentage points. We find significant positive effects on the share of import value, the number of transactions, and the number of products imported from adjacent foreign countries with a (majoritarian) common native language as opposed to ones with a different native language. There is no such effect on the unit value, the value per transaction, or the quantity per transaction. Hence, common native language seems to affect bilateral trade primarily through various extensive margins. Arguably, the latter points to common (at least native) language as a factor that reduces fixed market access costs rather than variable trade costs. In addition, we provide evidence on the heterogeneity of the language effect. It turns out to differ with transaction size and across industries, and seems to be more relevant for differentiated goods in comparison to homogeneous products.

The findings are important in three regards. First, they allow isolating and quantifying economic effects of pure cultural aspects of common native language. A positive impact of common culture speaks to the relevance of the size of cultural communities and could tell an economic lesson against separatist movements that draw a romantic picture of cultural isolation that might ultimately lead to economic disruption and a lack of economic prosperity. Second, a comparison of the findings with naïve estimates in this paper and a large body of estimates in earlier work suggests that aspects of language as a mere means of communication are probably not much more important than cultural aspects (to some extent, this differs from conclusions in Melitz and Toubal, 2012). However, the estimates nevertheless indicate that there are also sizable potential gains from common spoken language, e.g., through foreign language training in schools which can be affected by policy makers. Third, evidence of common language as a fixed trade cost factor may potentially influence the specification of structural trade models which distinguish between fixed and variable trade costs. For instance, modeling language effects on trade by way of fixed trade costs may lead to largely different economic effects of common language in

general equilibrium relative to earlier research.

3 Common language as a driver of trade in the literature

The interest in the role of language as a means of interaction and its consequences for outcome has its habitat at the interface of several disciplines within and at the boundaries of the social sciences.¹⁵ Common language – partly as a reflection of cultural proximity – is understood to stimulate interaction in general and cross-border transactions of various kinds in particular.¹⁶

In the context of international economics, theoretical research identifies a role for common language as a mere means of communication or as a broader substrate on which common culture and externalities florish (see, e.g., Kónya, 2006; Janeba, 2007; and Melitz, 2012). Empirical research typically models common language as a non-tariff barrier to trade – mostly in the form of an iceberg-type, ad-valorem trade cost element among the numerous variable costs to trade. Among geographical and cultural trade-impeding or trade-facilitating factors (see McCallum, 1995; Helliwell, 1996; Frankel and Romer, 1999; Eaton and Kortum, 2002; Anderson and van Wincoop, 2004; Disdier and Head, 2008), common language is one of the usually employed determinants of trade costs usually employed in *gravity models* of bilateral goods trade (see Helliwell, 1999; Melitz, 2008; Fidrmuc and Fidrmuc, 2009; Egger and Lassmann, 2012; Melitz and Toubal, 2012; Sauter, 2012).

In a meta-analysis, Egger and Lassmann (2012) find that the language coefficient in gravity models likely captures confounding economic, cultural, and institutional determinants in cross-country studies. In general, cultural proximity is viewed as an endogenous variable owing to confounding factors (see Disdier, and Mayer, 2007; Guiso, Sapienza, and Zingales, 2009; Felbermayr and Toubal, 2010). Accordingly, the parameter on common language indicators tends to be very sensitive to the exclusion of covariates among the determinants of bilateral trade flows – much more so than, e.g., that of bilateral distance (see Table 4 in Head and Mayer, 2013). Hence, the common language parameters in previous studies on the determinants of bilateral

¹⁵See Laitin (2000), Hauser, Chomsky, and Fitch (2002), Fidrmuc and Ginsburgh (2007), Holman, Schultze, Stauffer, and Wichmann (2007), Chiswick (2008), Fidrmuc and Fidrmuc (2009), Matser, van Oudenhoven, Askevis-Leherpeux, Florack, Hannover, and Rossier (2010), and Falck, Heblich, Lameli, and Südekum (2012) for recent important contributions on the matter in political science, sociology, socio-linguistics, economics, and psychology.

¹⁶See the references to 81 studies in Egger and Lassmann (2012) for evidence on the language effect on international goods transactions.

trade should not be interpreted as to reflect a causal impact of common culture on trade. Differentiating the communication and cultural aspects of common language is difficult. Some authors have attempted measuring cultural proximity and avoiding the bias of language coefficients through instrumental variables in a variety of related contexts (e.g., Sauter, 2012 uses official language status across Canadian provinces as an instrument for spoken language in provinces). However, one would ideally use data which allow for a better isolation of cultural from other aspects of language (see Falck, Heblich, Lameli, and Südekum, 2012, for such an approach). The latter is a strategy pursued in this paper.

4 Transaction-level import data and spoken languages in Switzerland

4.1 Data sources

To identify the direct treatment effect of common native language for alternative margins of bilateral imports, we use data from various sources. First of all, we utilize transaction-level import data (imports from abroad) of the Swiss Federal Customs Administration (EDEC) between January 2006 and June 2011. This data source contains for the universe of import transactions (102,518,645 data points) the following information (inter alia): an identifier for the importing authority (a person, a firm, or a political entity); an identifier of the address of the importing authority; the value per transaction; the quantity imported; the product (Harmonized System 8-digit code; HS 8); the time (day and even hour) of entering the country; and the country of origin.¹⁷ We collapse this information at the zip code and country-of-origin language zone level across all years and compute the following outcome variables: the aggregate value of imports per country-of-origin language zone relative to all imports of that zip code for all dates and importing authorities covered, Value share; the number of transactions per country-of-origin language zone relative to all transactions of that zip code for all dates and importing authorities covered, Transactions share; the number of HS 8-digit product codes per country-of-origin language zone imported by that zip code for all dates and importing authorities covered, Number of products (HS8 tariff lines); the logarithm of the average unit value per country-of-origin language zone of all imports by that zip code for all dates

¹⁷Compared to the import data, the transaction-level export data at our disposal do not cover the universe of transactions (but only about 40%) so that we suppress the corresponding information and results here and focus on imports.

and importing authorities covered, *Log unit value*; the logarithm of the value per import transaction by country-of-origin language zone of all imports by that zip code for all dates and importing authorities covered, *Log value per transaction*; and the logarithm of the quantity per import transaction by country-of-origin language zone of all imports by that zip code for all dates and importing authorities covered, *Log quantity per transaction*. The outcomes are based on trade with countries adjacent to Switzerland, with Germany and Austria as German-speaking exporters, France as the French-speaking exporter and Italy as the Italian-speaking exporter.¹⁸

We match this information with geo-spatial data on the exact location of language borders within Switzerland at 100-meter intervals. Language borders are determined by exploiting zip-code-based information from the 1990 Census and Geographical Information Systems data of the Swiss Federal Statistical Office (Bundesamt für Statistik). Moreover, we utilize Geographical Information Systems data provided by Swisstopo (Amtliche Vermessung Schweiz) to determine the location of Swiss zip code centroids in space and their Haversine distance in kilometers to all points along the internal language border in Switzerland as well as to all points along the national border. This allows for an exact determination of the minimal great circle distance of each zip code (of which there are 3,079 in the data) from the language border.¹⁹ The geospatial information and the use of distances to internal language borders is elemental for the identification strategy towards a causal effect of common native language as an aspect of common culture on trade. In particular, the chosen approach helps avoiding a bias from omitted confounding factors. Moreover, we can utilize the geospatial information to determine the minimal great circle distance of each spatial unit in Switzerland from the country's external border (even of the external border

¹⁸Liechtenstein is a German-speaking country but, as indicated before, its trade flows are reported within Switzerland's trade statistics so that the country appears neither as a country of origin nor – due to its large distance to the Swiss language border – as an importing unit within Switzerland.

¹⁹These belong in 3,495 zip codes for the sample period of which 3,079 can be used after dropping Romansh, non-trading, and non-matchable (between customs and spatial data) zip codes. Unlike with many firm-level data-sets available nowadays, the present one is untruncated. Hence, it contains all transactions that cross Swiss international borders officially. Some transactions are as small as one Swiss Franc. Moreover, since Switzerland charges a lower value-added tax rate than its neighboring countries and most products from neighboring (European Union member) countries are exempted from tariffs, there is an incentive even for individuals to declare foreign-purchased products when entering Switzerland. More precisely, everything shipped into Switzerland by postal services is subject to customs checking (including taxation and, where applying, tariff payments). Personally imported goods of a value below 300 Swiss Francs can be imported without declaration, though one would save on taxes when declaring. For alcohol and other sensitive products, there are numerous exceptions from the 300 Swiss Francs rule, and even smaller purchases have to be declared. More details on this matter are available from the authors upon request.

of a specific foreign language zone). As alternative geo-spatial information, we use data from *Die Post* to determine road distances from Swiss zip code centroids to the closest point on the language border on a road. We conjecture that road distances reflect transaction costs more accurately than great circle distances. In general, we focus on spatial units within a radius of 50 kilometers from internal language in terms of great circle or road distances with the zip code sample being generally somewhat smaller for the latter than the former.²⁰ The fact that the data contain both the intermediate importer and the final recipient as well as the shipper suggests that we are able to exploit all shipments imported by firms or individuals that are located within the zip codes included in our sample (we will assess the sensitivity of the results with regard to this point below).

Moreover, we augment the data-set by information on the mother tongue spoken in households per municipality from the 2000 Census. This information was kindly provided by the Swiss Federal Statistical Office (*Bundesamt für Statistik*). In conjunction with geo-spatial information, the data on the distribution of actual mother tongue may be used to measure the discontinuity in the majority use of native language as a percentage-point gap in mother tongue spoken of spatial units on one side of the Swiss language border relative to exporting foreign language zones to ones on the other side of the Swiss language border. Later on, this will allow us to express the estimated treatment effect of common language on various import aggregates per percentage point gap in common native language.

4.2 Descriptive statistics

The value of the average transaction in the covered sample is 9,930 Swiss Francs (CHF) and the median value is 376 CHF. Figures 4–7 summarize for all geographical units the frequency of positive import transactions per geographical unit with adjacent German-speaking, French-speaking, Italian-speaking, and (non-adjacent) other countries (rest of the world, RoW), respectively.

– Figures 4–7 about here –

The figures support the following conclusions. First, the share of positive import transactions from the same language zone is generally higher for units with the same dominant mother tongue in Switzerland than for other regions. Very few spatial units

²⁰Calculating minimal road distances of all zip codes to internal language borders in Switzerland is time-consuming and costly. Since identification of the causal direct effect of common native language is local at the language border by way of the chosen design, it is unproblematic to focus on a band of 50 kilometers around internal language borders anyway.

outside the German- or Romansh-speaking parts have a similarly high concentration of imports from Germany or Austria as the ones in those zones (see Figure 4). The same pattern is true for the French-speaking and the Italian-speaking parts of the country with respect to destinations that share a common language (see Figures 5 and 6). Figure 7 shows that imports to the rest of the world are much more evenly distributed over the three considered language regions. Unsurprisingly, rural regions exhibit lower shares with the RoW than the densely populated regions in the French-speaking part of the country and the Swiss-German agglomerations, in particular around Zurich (the largest city of Switzerland) and Berne (the capital of Switzerland).²¹ Second, a randomly drawn unit from all over Switzerland accounts for a larger share of import transactions from German-speaking countries than from elsewhere for three reasons: the German-speaking part of Switzerland is relatively large, Germany is larger than France or Italy, and the transport network openness of Switzerland to German-speaking countries is relatively higher than to other language zones due to (relevant, non-mountainous) border length, road accessibility, etc. Altogether, Figures 4–7 provide clear evidence of a language divide in the concentration of import transactions in Switzerland.

– Tables 1–3 about here –

Tables 1–3 provide a more detailed overview of the importing behavior of Swiss regions (zip codes) located within alternative (great circle) distance brackets from the language border.²² The tables indicate that Swiss regions import a larger share of import volume or transactions and more products from neighboring countries with a common native language that is spoken by a majority of the inhabitants than on average. This pattern is similar for units within the same canton (see the lower panel of Tables 1–3) – where the language border within Switzerland divides a canton and institutional differences between treated and untreated regions are minimal – and for all units (see the upper panel of Tables 1–3) at cross-cantonal or intra-cantonal language borders.²³ Moreover, language differences appear to affect predominantly

²¹We will demonstrate later on that the pattern of RoW imports is not discontinuous about internal language borders.

²²The estimation procedures below will alternatively utilize road distances and great circle distances to determine a zip code's distance to the internal language border. For the sake of brevity (and since results are very similar between the two concepts) and smaller sample size when using road distances at given distance bands to the internal language borders, we suppress numbers based on road distance in Tables 1–3.

²³Later on, we will provide evidence that average fixed importing zip code effects estimated from a gravity model of log bilateral imports of Swiss zip codes from foreign countries are not discontinuous at the Swiss internal language borders. Hence, the differences in trade between

extensive transaction margins of trade (such as the share of transactions) but less so intensive transaction margins of trade (such as the value per transaction or the unit value). Hence, the total value of a region's imports is predominantly skewed towards countries of origin with a common native language due to the number of transactions and the number of products traded. This suggests that common native language mainly affects fixed transaction costs rather than marginal (or ad-valorem) trade costs, in contrast to traditional gravity modeling.

Let us just single out a few numbers for a discussion of Tables 1–3. According to the bottom row of the top panel of Table 1, German-speaking regions in Switzerland trade on average 53.8% of their import volume and 51.9% of their transactions with German-speaking countries. These numbers are 50.9% and 47.1% for zip codes which are located on the German side of intra-cantonal Swiss language borders that separate French-speaking and German-speaking regions. They are 56.3% and 49%for German-speaking zip codes around the intra-cantonal language border between Italian-speaking and German-speaking regions. German-speaking Swiss regions import only 5.1% and 9.7% of their import volume from French- and Italian-speaking countries of origin, respectively. The corresponding shares of transactions from these source countries are 3.6% and 8.6%, respectively. The same qualitative pattern (with some quantitative differences) arises when considering French- and Italian-speaking regions' common-language versus different-language imports.²⁴ The same is true for the number of imported products as shown in Table 2. Clearly, the number of products imported from countries with a common native language spoken by the majority is relatively higher. On the other hand, Tables 2 and 3 do not confirm similar patterns for the log unit value, the log value per transaction, and the log quantity per transaction. These outcomes do not differ between imports from differing language groups. Tables 4–5 summarize further features of the Swiss spatially disaggregated data.

– Tables 4–5 about here –

Table 4 indicates the number of zip codes in different language areas and distance brackets from the Swiss internal language borders. For instance, that table demonstrates that the number of German-speaking regions in the data is much bigger than that of French- and Italian-speaking regions. However, Table 4 suggests that

units with common and non-common language at internal language borders do not arise from differences in characteristics which are specific to zip codes (such as income, taxation, or the like).

²⁴The import shares of French-speaking regions from France tend to increase with increasing distance from the respective language border, while import shares of Italian-speaking regions from Italy tend to decrease with increasing distance from the language border.

the number of zip codes is relatively symmetric on either side of Swiss language borders within symmetric distance bands around those borders. If all zip codes with a native majority of one of the three languages considered were used to infer the average treatment effect of common native language independent of their distance to language borders, transactions from 3,079 zip codes could be utilized. Of those, only 986 zip codes would be used when focusing on intra-cantonal language borders. Of course, the number of zip codes used in estimation declines as one narrows the symmetric distance window around language borders: there are 30 zip codes within a \pm 1-kilometer band of language borders all over Switzerland of which 24 are located at intra-cantonal language borders; there are 706 zip codes within a \pm 20-kilometer band of language borders all over Switzerland of which 435 are located at intra-cantonal language borders.

Table 5 indicates that the language border effect is drastic and discontinuous in the sense that, no matter how narrow of a distance band around the internal border we consider, the one language is spoken by a large native majority while the majoritarian language of the adjacent different-language community accounts for a positive but much smaller fraction. Nevertheless, the design is fuzzy regarding the share of individuals of any of the native languages considered on any side and type (French, German, Italian) of internal language border considered. This suggests that the parameter on majority-related common native language should not be interpreted as a local direct average treatment effect of common language (LATE; i.e., locally at the language border). With a sharp design, the parameter would measure the LATE associated with a jump of the difference in common native language from zero to one-hundred percent of all speakers.²⁵

5 Spatial RDD estimation of the local average treatment effect (LATE) of common native language on trade

This section is organized in three subsections. First, we briefly outline the identification strategy of the LATE as a spatial regression discontinuity design in Subsection 5.1. Then, we summarize the corresponding benchmark results regarding the LATE in Subsection 5.2. Finally, we assess the robustness of the findings and extensions in various regards in Subsection 5.3.

 $^{^{25}}$ Melitz and Toubal (2012) provide evidence that the fraction of native language in virtually all exporting countries with only a single official language is less than 100%. Not surprisingly, this is true as well for Switzerland.

5.1 A spatial regression discontinuity design (RDD) for the LATE of common native language majority

This paper's empirical approach is based on the following identification strategy. Bilateral imports of geographical unit j = 1, ..., N which, in our case, is a Swiss zip code, from country *i* are given by the relationship in Equation (1). Let us specify two such bilateral import relationships based on the latter equation. Imports of *j* from *i* are determined as $M_{ij} = e^{\lambda_{CNL} \text{CNL}_{ij}} e^{\lambda_{CSL} \text{CSL}_{ij}} d_{ij} \mu_i m_j u_{ij}$, where CNL and CSL reflect common native and common spoken language variables (shares), and ones of *k* from *i* by $M_{ik} = e^{\lambda_{CNL} \text{CNL}_{ik}} e^{\lambda_{CSL} \text{CSL}_{ik}} d_{ik} \mu_i m_k u_{ik}$. Suppose that we pick countries and zip codes such that $\text{CNL}_{ij} \geq 0.5$ while $\text{CNL}_{ik} < 0.5$, $\text{CSL}_{ij} \approx \text{CSL}_{ik}$ and $d_{ij} \approx d_{ik}$. Then,

$$\frac{M_{ij}}{M_{ik}} = e^{\lambda_{CNL}} \frac{u_{ij}}{u_{ik}} \tag{2}$$

Notice that λ_{CNL} can be estimated as a constant to the log-transformed relationship in Equation (2), if (conditional or unconditional) independence of $(\text{CNL}_{ij} - \text{CNL}_{ik})$ and $\ln \frac{u_{ij}}{u_{ik}}$ is achieved. Econometric theory proposes two elementary options to achieve such independence, instrumental variables estimation or – in very broad terms – a control function approach, where we subsume any form of controlling for observable variables (with more or less flexible functional forms) under the latter approach.²⁶

The variable CNL_{ij} measures the share of speakers in zip code j with the same common native language as the majority of the population in exporting country i. Alternatively, we may determine a binary variable $RULE_{ij}$ which is unity between i and j for, say, historically mainly German-speaking zip codes in Switzerland for their imports from Germany and Austria, and similarly for French-speaking and Italian-speaking zip codes with imports from France or Italy. Notice that we focus only on imports from four included exporting countries which share common land borders with Switzerland (Austria, France, Germany, and Italy), for reasons of clean identification. As said before, the dominant language is the mother tongue of at least

²⁶Hence, we use the term control function for conditioning on regressors beyond ones in $e^{\lambda_{CNL} \text{CNL}_{ij}} d_{ij}$ for all countries *i* and regions *j* in parametric and nonparametric frameworks. Naturally, this notion includes switching regression models, matching, as well as regression discontinuity designs (see Wooldridge, 2002), all of which may be portrayed as to involve some sort of control function (and some weighting of units). Notice that when formulating the control function for an outcome equation in terms of residuals from first-stage regressions, even instrumental variable estimation can be cast as a control function approach. In terms of the above notation, the usual approach adopted in the literature was one where the assumption was made that $E\left[\frac{u_{ij}}{u_{ik}}\right] = 1$, and all variables in the model were assumed to comprehensively control for $d_{ij}\mu_i m_j$ for all units *i*, *j*, and *k*.

50% of the residents by definition, but not necessarily and even not actually of 100%. As indicated before and as is visible from Figures 8–10, treatment assignment is discontinuous but not sharp at the historical language borders, since the percentage of speakers is not 100% for any native language in any region.²⁷ In addition, Figure 11 - which is organized in such a way that the treatment (averaged within distance bins of 1 km) is shown in the vertical dimension, and panels on the left-hand side are based on great circle distance to the language border as the forcing variable, while panels on the right-hand side are based on road distance to the language border as the language border as the forcing variable – visualizes the discontinuity of treatment at the language border. Akin to Figures 8–10, it is shown that the discontinuity is pronounced but does not jump from zero to one at the border. The curvature is quite flat and similar on both sides of the language border.

– Figures 8–11 about here –

Let us generally refer to an import outcome of any kind for spatial unit j as y_j . Recall from Section 4 that we employ six alternative bilateral import outcomes (generally referred to as y_{ij}) in the analysis: Value share; Transactions share; Number of products (HS8 tariff lines); Log unit value; Log value per transaction; and Log quantity per transaction.

We follow the literature on regression discontinuity designs (RDDs; see Imbens and Lemieux, 2008; Angrist and Pischke, 2009; and Lee and Lemieux, 2010) and postulate a flexible function about a so-called forcing variable, which may remove the endogeneity bias of the average treatment effect on outcome. For this, let us define the forcing variable for imports from country *i* by spatial unit (zip code) *j*, x_{ij} , as the centered (road or great circle) distance to the intra-Swiss language border in kilometers. We code the forcing variable negatively in the non-treatment case ($x_{ij} < 0$ if $\text{CNL}_{ij} < 0.5$)²⁸ and positively in the treatment case ($x_{ij} \ge 0$ if $\text{CNL}_{ij} \ge 0.5$). For convenience, we will sometimes refer to zip codes with $x_{ij} < 0$ as

²⁷The figures indicate that the share of the population speaking the native language spoken by the majority of the population in a zip code is higher than 80% in most regions, and that the change at the language borders is drastic but not sharp. The degree of fuzziness may be measured by the difference in the fraction of speakers of a common language to the "right" of the border (in the treatment region) and those to the "left" of the border (in the control region). This difference amounts to 0.66. This estimate is based on an optimally chosen bandwidth around internal language borders for treatment which amounts to 18 km (Imbens and Kalyanaraman, 2012). An estimate across all three native language usages and regions in Switzerland within 50 km around internal language borders amounts to 0.81. With a sharp design, the corresponding difference would be unity. Hence, a larger deviation of that difference from unity is associated with a larger degree of fuzziness.

 $^{^{28}}$ Then, there is a different language majority between j and the respective foreign language zone.

to be situated to the left of the border and ones with $x_{ij} \ge 0$ as to be situated to the right of the border. Let us define the sufficiently smooth (parametric polynomial or nonparametric) continuous functions $f_0(x_{ij})$ at $x_{ij} < 0$, $f_1(x_{ij})$ at $x_{ij} \ge 0$, and $f_1^*(x_{ij}) \equiv f_1(x_{ij}) - f_0(x_{ij})$.

With a fuzzy treatment assignment design – where, say, any main language zone in Switzerland contains native speakers of yet another main language type – as in the data at hand, the average treatment effect (ATE) in an arbitrary geo-spatial unit and the local average treatment effect (LATE) in a close neighborhood to a Swiss internal language border of CNL_{ij} on outcome are defined as

$$ATE \equiv \frac{E[y_{ij}|x_{ij} \ge 0] - E[y_{ij}|x_{ij} < 0]}{E[CNL_{ij}|x_{ij} \ge 0] - E[CNL_{ij}|x_{ij} < 0]}$$
(3)
$$= \lambda_{CNL} + E\left[\frac{f_1^*(x_{ij})}{E[CNL_{ij}|x_{ij} \ge 0] - E[CNL_{ij}|x_{ij} < 0]}\right]$$
$$LATE \equiv \lim_{\Delta \to 0} \frac{(E[y_{ij}|0 \le x_{ij} < \Delta] - E[y_{ij}| - \Delta < x_{ij} < 0])}{(E[CNL_{ij}|0 \le x_{ij} < \Delta] - E[CNL_{ij}| - \Delta < x_{ij} < 0])}$$
$$= \lambda_{CNL}.$$
(4)

Hence, ATE is the adjusted difference in conditional expectations of outcome between treated and untreated units, while LATE is the conditional expectation in outcome between treated and untreated units in the neighborhood of $x_{ij} = 0$. Both ATE and LATE are adjusted for the degree of fuzziness in the denominator which is a scalar in the open interval (0, 1) in case of some finite degree of fuzziness as is the case with the data at hand. If treatment assignment is truly random conditional on x_{ij} and there is no other discontinuity determining treatment assignment other than about x_{ij} . Then, the limit of the difference in conditional expectations in Equation (4) is unconfounded by other covariates and there is no need to control for observables beyond $f_0(x_{ij})$ and $f_1(x_{ij})$.²⁹

Empirically, the adjustment through the denominator in (3) and (4) can easily be made when regressing outcome y_{ij} on \widehat{CNL}_{ij} instead of CNL_{ij} (apart from the control functions $f_0(.)$ and $f_1(.)$), where \widehat{CNL}_{ij} is the prediction from a regression of

²⁹We will check this later on by additionally controlling for the demeaned distance of zip code j to the Swiss external language border to a specific language zone and by estimating LATE in a subsample of observations where λ_{CNL} is only estimated from units to the left and the right of intra-cantonal language borders as is the case in the cantons of Bern (German/French), Valais (German/French), Fribourg (German/French), and Graubünden (German/Italian). Moreover, we will demonstrate that, for a given exporting country i and bilateral imports of zip code j from i versus zip code k from i as in (1), there is no discontinuity about zip code-specific effects m_j and m_k at internal language borders in Switzerland.

 CNL_{ij} on the indicator variable RULE_{ij} which is unity whenever $x_{ij} \ge 0$ and zero else (and on the control functions $f_0(.)$ and $f_1(.)$).³⁰

Regarding the design of the data-set for identification of the LATE of common native language on import outcomes, notice that each Swiss spatial unit (zip code) within a certain distance bracket to the left and the right of a Swiss language border is used up to thrice: once as a treated observation $(x_{ij} \ge 0)$ and up to twice (depending on the considered distance window around language borders) as a control observation $(x_{ij} < 0)$. This is because, say, a unit j in the German-speaking part and adjacent to the French-speaking part of Switzerland is considered as *treated* with imports from the German-speaking foreign language zone but as *untreated* (*control*) with imports from the French-speaking or the Italian-speaking foreign language zone, respectively. Given the choice of a certain distance window around language borders, only units which are within the respective window of two different language borders will show up thrice in the data.³¹

5.2 Main results

In the empirical analysis, we only consider zip codes within a radius of 50 kilometers (defined as either the minimum road or the minimum great circle distance) around internal language borders in Switzerland. We summarize regression results for the LATE of a common native language of residents in a region on the aforementioned outcomes for imports in Table 6 (using road distance as the forcing variable) and Table 7 (using great circle distance as the forcing variable) and in Figures 12 and 13. Notice that the adopted instrumental variable strategy entails that the estimated parameter on common native language reflects the LATE associated with a jump from zero (to the conceptual *left* of the border) to one-hundred percent (to the conceptual right of the border). Hence, the impact of common native language per percentage point overlap in common native language amounts to $0.01 \times \lambda_{CNL}$. Tables 6 and 7 contain eight numbered columns each, which indicate the functional form of the control functions $f_0(x_{ij})$ and $f_1(x_{ij})$, and Figures 12 and 13 illustrate the estimates of the nonparametric control functions in Column (4) of Tables 6 and 7. For each outcome considered, we report information with regard to the point estimate of LATE (λ_{CNL}) and its standard error with a parametric control function and the correlation coefficient between the model prediction and the data

³⁰Of course, as is standard with two-stage least squares, the standard errors have to be adjusted properly for the fact that \widehat{CNL}_{ij} is estimated rather than observed.

³¹In the sample at hand, 15 German-speaking zip codes lie within 50 km from both the German-French and the German-Italian language border if we use the great circle distance as a distance measure. The corresponding number with respect to road distance is 4.

with a nonparametric control function, estimated in line with Fuji, Imbens, and Kalyanaraman (2009) and Imbens and Kalyanaraman (2012). Moreover, we report information on the number of cross-sectional units used for estimation, the R^2 , and – for nonparametric estimates – the chosen bandwidth.³² Tables 6 and 7 are organized in four panels: the panel on the upper left contains the results for the LATE of λ_{CNL} estimated from units within and across cantons; the panel on the upper right estimates the LATE by conditioning not only on the control function based on the forcing variables but also on the demeaned distance to Switzerland's external border with the respective language;³³ the two panels in the lower part of the tables correspond to the respective ones in the upper part but are only based on regressions involving intra-cantonal language borders in Switzerland to eliminate institutional differences between zip codes on two sides of a language border to the largest possible extent.

– Tables 6–7 and Figures 12–13 about here –

The tables and figures suggest the following conclusions. First, the quantitative difference between most of the comparable estimates of LATE on the same outcome in the upper left and upper right panels of Table 6 is relatively small and so is the one between the corresponding estimates of LATE in the upper and lower panels of Table 6. Hence, the results suggest that the RDD about road distance to internal language borders is capable of reducing substantially the possible bias of the LATE of common language majorities on (Switzerland's) import behavior. Second, model selection among the polynomial models based on the Akaike Information Criterion (AIC) as suggested by Lee and Lemieux (2010) leads to the choice of first-order to third-order polynomial control functions: higher-order polynomials are rejected in comparison due to efficiency loss. The AIC is minimized for the first-order polynomial control function is selected for the number of products as outcome and the log quantity per transaction. A third-order polynomial is selected for the log unit value. And a fifth-order polynomial is selected for the log value per transaction.³⁴ Tables 6-7

³²Recall that units may surface up to thrice in a regression: once as a treated and up to twice as a control unit. Therefore, the number of observations is relatively large in comparison to the ones reported in Table 4.

³³Austria and Germany for German imports (relative to others), France for French imports, and Italy for Italian imports. The respective distance is demeaned properly such that λ_{CNL} still measures the LATE of a common language majority.

³⁴In general, also the Bayesian Information Criterion selects first-order to third-order control functions. For the sake of brevity, we report LATEs involving either first-order to third-order parametric control functions or nonparametric control functions in the tables.

indicate that there is some sensitivity of the point estimates to the functional form of the control function. The reason for this might be that within a band of 50 kilometers around the internal language borders the functional form of the control function still matters. Therefore, it may be preferable to consider a nonparametric rather than a parametric control function. The point estimates indicate that the first-order polynomial parametric control functions tend to generate LATE parameters which tend to be closer to the nonparametric counterparts than the ones based on higherorder polynomials, on average. Third, utilizing the great circle distance instead of road distance in Table 7, the results are robust compared to Table 6. The LATE amounts to 0.222 for the import volume share, to 0.218 for the import transactions share and to 174 for the number of products with a parametric first-order polynomial control function. With a nonparametric control function, it amounts to 0.179 with respect to the import value share, to 0.199 regarding the import transaction share, and to 145 regarding the number of products. We find no significant effect regarding the log unit value, the log value per transaction, and the log quantity per transaction. Finally, the results suggest that speaking a common native language mainly reduces fixed rather than variable trade costs. The latter flows from the fact that we identify effects mainly at extensive import margins in the upper part of each panel in the vertical dimension but not on intensive import margins.

Table 6 suggests a significant LATE of common native language of 0.187 for the import volume share and 0.202 for the import transactions share, according to Column (1) of Table 6. The LATE of common native language for the number of transactions amounts to 186. Estimates based on a nonparametric control function suggest similar point estimates of the LATE in Column (4) of Table $6^{.35}$ 0.179 for the import volume share, 0.196 for the import transactions share, and 102 for the number of transactions. Hence, the import value share from a given country is about 18 percentage points higher, the transaction share is almost 20 percentage points higher for a zip code with a common native language exporter than those shares are for a comparable zip code with a different native language exporter. Regions import 142 additional products from a neighboring country sharing a common native language compared to different native language exporters. There is no robust evidence regarding effects of common native language on other considered trade outcomes. Akin to the parametric evidence, results based on the nonparametric control function point to a dominance of effects of common native language on the extensive transaction margin of trade rather than at intensive margins (such as value per transaction, quantity per transaction, or unit value).

³⁵The bandwidth for the nonparametric estimator is determined by following Imbens and Kalyanaraman (2012). The selected bandwidths are always reported in the tables.

Figures 12 and 13 visualize these results. While Figure 12 utilizes all zip codes within a certain distance to the language border in Switzerland, Figure 13 is only based on zip codes to the right and the left of intra-cantonal language borders. Both figures are organized in a similar way as Figure 11. They clearly suggest that discontinuities are more pronounced for extensive than intensive import transaction margins. The figures also suggest that the nonparametric control function eliminates the bias in the treatment effect even within the full data sample (within ± 50 kilometers from the internal language borders).

5.3 Sensitivity analysis and extensions

The results reported in Subsection 5.2 provided already some insights in the sensitivity of the LATE estimates of common native language (majority) on import behavior by comparing results based on various (parametric and nonparametric) control functions, by considering road distance versus great circle distance as the forcing variable, and by comparing results for all zip codes within a certain window around the intra-Swiss language border versus ones that were located within the same canton. The aim of this section is to illustrate the qualitative insensitivity of the aforementioned results along various lines and to provide further results based on components (in terms of product and size categories) of imports rather than total imports.

The nonparametric native language LATE for alternative bandwidths

In a first step, we analyze the sensitivity of the nonparametric regressions to different bandwidth choices in Table 8.

– Table 8 about here –

In Columns (1) and (5) of Table 8, we utilize the same bandwidths (see Imbens and Kalyanaraman, 2012) as in Columns (4) and (8) of Table 6. The remaining nonparametric LATE estimates in Table 8 are based on fixed (lower than optimal) bandwidths in the other columns of Table 8.³⁶ The corresponding findings suggest that the results are fairly insensitive to choosing bandwidths between 20 and 30 kilometers, and bandwidths at 10 kilometers produce insignificant LATE parameters.

³⁶The optimal bandwidth is about 40 kilometers for the extensive margins of interest, which is in line with bandwidths for outcomes chosen by the cross-validation criterion (these amount to 37 km for the value and the transactions share, to 39 km for the number of products, to 49 km for the log unit value, to 40 km for the log value per transaction, and to 50 km for the log quantity per transaction with all language borders). Since the cross-validation criterion suggests a bandwidth below 10 km for treatment, we use fixed bandwidths of 10, 20 and 30 as alternatives.

In general, bandwidths that are smaller than the optimal bandwidth lead to an efficiency loss, while bandwidths larger than the optimal one lead to larger bias.

Geographical placebo effects of the native language LATE

Moreover, we undertake two types of placebo analysis to see whether discontinuities of trade margins at internal language borders are spurious artifacts or not. For the first one, we consider the local average treatment effect of common native language on import outcomes from the rest of the world. The reason for this analysis is to check whether the pattern of trade around internal language borders indeed reflects a cultural relationship to the surrounding languages rather than spurious discontinuities which could occur for other languages and cultural contexts as well. For this, we utilize a sharp RDD and define language to be unity for all Roman languages.

– Table 9 about here –

This analysis is summarized in Table 9, and it suggests that there is no systematic effect of intra-Swiss language differences on imports from the rest of the world at the internal language borders. For the second placebo analysis, we test whether we observe discontinuities at points other than the majoritarian native language borders by splitting the sample in subsamples with forcing variables of $x_{ij} < 0$ or $x_{ij} > 0$. Then, we test for discontinuities at the median level of the forcing variable in those subsamples. Table 10 suggests that such discontinuities do not appear at the median.

– Tables 10 and 11 about here –

Furthermore, Figures 12 and 13 suggest that a discontinuity might exist at a distance to the internal language border of about 15 kilometers. Table 11 provides an assessment of this issue. It turns out that a statistically significant discontinuity is only detected with a first-order polynomial control function for import value shares with all (intra-cantonal and inter-cantonal internal border) data-points. Specifications with parametric higher-order polynomial control functions or nonparametric control functions do not identify a statistically significant discontinuity. Moreover, none of the control function approaches detects a significant discontinuity at a placebo language border which is 15 kilometers away of the actual language border when only considering intra-cantonal placebo borders.

Lack of a RDD for fixed zip code-specific effects at internal language borders

Since the underlying data are double-indexed (by Swiss zip code and foreign country), we may assess whether the importer-specific characteristics differ jointly between zip codes on the two sides of an internal language border. We illustrate graphically that zip code omitted variables are powerfully controlled for by the chosen design in Figure 14. For this, we estimate gravity models of the form of equation (1). While the modeling of the trade cost function is quite standard across new trade models, the structural interpretation of μ_i and m_j depends on the underlying theoretical model.

– Figure 14 about here –

Figure 14 suggests that there is no discontinuity of zip code characteristics (regarding their size and consumer price index) at Swiss internal common native language borders. Hence, considering regional units close to the language borders within Switzerland powerfully eliminates important sources of heterogeneity across exporters and importers. Moreover, by the normalization of outcomes – i.e., using import value or transaction shares from the same language zone of origin, etc. – any possible source of bias from a heterogeneity of foreign language zones is eliminated anyway.

The native language LATE for alternative intensive product margins

Here, we consider three additional outcomes regarding intensive *product* (rather than *transaction*) margins: log value per HS 8-digit product line; log unit value per product line; and log quantity per product line. The corresponding estimates are summarized in Table 12.

– Table 12 about here –

Except for the log unit value per product, where the LATE amounts to 0.236 with a nonparametric control function in Column (4) of Table 12, these intensive product margins are not affected by common native language. Altogether, the results confirm the earlier interpretation of the evidence about common (native) language as a determinant of fixed rather than ad-valorem trade costs.

The native language LATE for specific internal language borders

Next, we assess the possibly varying magnitude of the LATE of interest for specific internal language borders: the French-German and the German-Italian border within Switzerland. The corresponding results are summarized in Table 13. Columns (1)-(4)

refer to the French-German border and Columns (5)–(8) refer to the Italian-German border.

– Table 13 about here –

We observe that the LATE is much higher for the latter, amounting to 0.285 regarding the value share and to 0.293 regarding the transactions share, when considering the nonparametric estimates in Column (8). It is 0.168 and 0.180, respectively, for the former sample in Column (4). Hence, common native language is nearly twice as important for the German-Italian border than for the French-German one. One explanation for this may be seen in the relative importance of geographical barriers (by way of the mountains)³⁷ for the relative magnitude of cultural language barriers.

Beyond those border-specific results, we estimated the LATE for the internal language border in the canton of Fribourg only. The reason for this exercise was to eliminate any role of mountain barriers for the treatment effect of common native language. Doing so when using road distances to the internal border as the forcing variable led to LATE estimates of 0.249 for the value share (with a standard error of 0.067), and to 0.225 for the transactions share (with a standard error of 0.056) with a nonparametric control function. Hence, the corresponding results exhibit a slightly higher magnitude than the ones which are pooled across language treatments and language borders. Apart from that, the topographical barriers should not pose major problems to our identification strategy in the sense that they would spuriously confound the LATE of common native language. Transport routes such as tunnels are nowadays well accessible (for instance, it takes only 20 minutes to cross the Gotthardpass, which is the most important geographical barrier in the sample), and most parts of the language border do not involve mountainous barriers anyway.

The native language LATE for specific native languages

Beyond differences in the native language LATE across language barriers, there might be a difference with regard to specific native languages (or language treatments). One reason for this could be a greater general acceptance of or taste for goods from a specific language zone across all customers. Notice that part of the effect in Table 13 might be due to such heterogeneity already. Akin to the descriptive statistics about the transactions share shown in Figures 4–6, we summarize the relative magnitude of the LATE across the languages French, German, and Italian in Table 14.

– Table 14 about here –

 $^{^{37}}$ These alpine barriers are the *Gotthardpass* – a main transit route – and *Berninapass*.

In general, a distinction across the three native languages leads to a loss of degrees of freedom so that the LATE cannot be estimated at the same precision as the pooled estimates. In any case, there is evidence of the LATE to be strongest for imports from Italy when considering intra- and extra-cantonal language borders within Switzerland. With intra-cantonal language borders only the LATE for imports from France can be estimated at high-enough precision to reject the null hypothesis. The relative magnitude of the LATE for imports from France is comparable to the pooled estimates, irrespective of whether we consider all spatial units around internal language borders or only ones for intra-cantonal borders. The estimates for imports from Austria and Germany are somewhat smaller than the pooled ones, and the LATE estimates for imports from Italy are larger than the pooled estimates when considering all spatial units at the top of Table 14.

The native language LATE in the size distribution of importers

With the analysis at stake, it is worthwhile to consider different effects of native language on large versus small importers. The reason is that large importers might (i) more easily hire native workers from another language district (inducing worker commuting or migration) and (ii) engage in retailing. This would create fuzziness about the LATE.

– Table 15 about here –

To address this point in part, we augment the sensitivity analysis in Table 15 by reporting results for each of the four quartiles of the distribution of respective outcomes as used in Table 6. Since we consider road distance to be the preferable forcing variable, we base those results on road rather than great circle distance in the control function. For the sake of brevity, we only report estimates including the demeaned distance to respective national borders as a covariate. The nonparametric estimates in Table 15 suggest that the LATE is highest at the third quartile and lowest at the fourth quartile (of value shares and numbers of transactions).

Altogether, the findings in the previous subsection do not appear to be driven by large importers in particular. The quartile-specific results again point to the relevance of common native language for fixed rather than ad-valorem trade costs. For the smallest quartile of transaction sizes, the LATE is not only higher for extensive margins of trade than in the highest quartile, but it is even positive and significantly different from zero for log unit value and log value per transaction.

The native language LATE when excluding trading hubs

The effect of common native language may be biased by the fact that all zip codes, including major trading hubs, are used. It may be interesting to exclude the following zip codes in which customs offices that handle trade in goods according to the Swiss Federal Customs Administration are located: Aarau, Basel, Birsfelden, Bern, Brig-Glis, Chavornay, Le Noirmont, Möhlin, and Pratteln. When excluding the corresponding zip codes, the LATE amounts to 0.184 regarding the value share, to 0.200 regarding the transactions share, and to 171 regarding the number of products.³⁸ These figures are similar to the ones reported in Table 6.

The native language LATE when accounting for cross-border shopping

One would want to see how the LATE of common native language changes as one excludes regional observations in the immediate proximity to the internal border. The latter would address the possibility of (internal language-)cross-border shopping as a consumer side counterpart to the supplier side argument related to hiring of non-local-native language commuters. Again, commuting or cross-border shopping would induce measurement error about the LATE of common native language.

- Tables 16 - 18 about here -

To shed light on this matter, we leave out all observations within 5, 10, and 15 kilometers around internal language borders and estimate the LATE from a discontinuity at a distance of 10, 20, and 30 kilometer, respectively, in the forcing variable in order to avoid measurement error in outcome by way of sales of goods at one side of the internal language border to customers at some distance on the other side of the border. Compared to the nonparametric estimates in Table 6, Tables 16 to 18 show that the nonparametric estimates of value and transactions shares increase to more than 0.2 if we leave out observations within 5, 10 and 15 kilometers from the language border. The estimates are robust across these three alternative truncation choices.³⁹ The pattern is the same – although less pronounced – for the parametric estimates.

The native language LATE for individual product categories

Finally, there may be a genuine interest in the relative magnitude of the LATE across alternative product categories for two reasons. First of all, preferences (and the specific role of culture) might differ across products or product types and, second, the relative importance of variable and fixed trade costs might vary across products.

³⁸The corresponding estimates are based on a first-order polynomial specification, which is preferable when considering the AIC for the subsamples of data.

³⁹The LATE for the value share amounts to 0.260, 0.262, and 0.270, respectively. It is 0.232, 0.242, and 0.276, respectively, for the transactions share. And it amounts to 128, 120, and 260 for the number of products, respectively. In addition, the LATE becomes significant if we leave out observations within 5 and 10 kilometers for the log unit value.

A first concern is that common culture by way of common native language might be more important for consumer goods than for intermediate goods. To shed light on this, we singled out consumer goods according to the Swiss Federal Customs Office to estimate the LATE of common native language only on those goods. The results are summarized in Table 19 for road distance as the forcing variable which suggests that there is no significant difference – neither qualitatively nor quantitatively – in the sensitivity of *all goods* in Table 6 versus *consumer goods only* in Table 19 to common native language.

– Table 19 about here –

In Figure 15, we illustrate estimates of the LATE point estimates across all HS 2-digit product lines (of which there are 97) by way of kernel density plots, and in Table 20 we summarize the LATE estimates across three goods categories – homogeneous, reference-priced, and differentiated goods – according to the so-called liberal classification by Rauch (1999). Both in Figure 15 and in Table 20 we utilize road distance as the forcing variable. The corresponding results may be summarized as follows. Figure 15 suggests that the dispersion of the LATE is fairly high for all outcomes. The LATE may be very high or even negative for some products, while the (by the industry share in terms of import value) weighted average is similar to the point estimates reported in Table 6. For instance, the LATE regarding the import value share is highest (amounting to 0.805) for Vegetable plaining materials (HS 2-digit (amounting to 0.203) for Electrical machinery and equipment and parts, telecommunications equipment, sound recorders, television recorders (HS 2-digit code 85). The LATE in the – in terms of import value and in descending order – most important 2-digit products in the data at hand – Jewelry (pearls, stones, precious metals, imitation jewelry, coins; HS 2-digit code 71), Machinery (nuclear reactors, boilers, machinery and mechanical appliances, computers; HS 2-digit code 84), and *Pharmaceutical products* (HS 2-digit code 30) amounts to 0.282, 0.203, and 0.419, respectively.

– Figure 15 and Table 20 about here –

Table 20 reveals that the impact of common native language is more pronounced for *reference-priced* and *differentiated* goods than for *homogeneous* goods. In particular, there is a positive impact of common native language in those goods categories for both *reference-priced* and *differentiated* good import value and transaction shares and for *differentiated* good number of products. Even though we suppress the corresponding results here for the sake of brevity, similar conclusions could be drawn when employing the conservative classification by Rauch (1999). These results are broadly in line with the findings in Melitz and Toubal (2012) who argue that cultural traits such as ethnic ties and trust are expected to be more important for differentiated than for homogeneous goods because trade in the former requires a larger amount of information.⁴⁰

To get a more precise image about the importance of CNL underlying this relatively broad goods classification, we accompany this analysis by some evidence at the level of individual – HS 4-digit level products based on their importance in terms of import volume. For this, let us consider one homogeneous production input (refined copper & alloys (no mast alloy), unwrought; HS 4-digit code 7403) and one homogenous consumer good (fruit juices (& grape must) & veg. juice, no spirit; HS 4-digit code 2009). The LATE amounts to 0.802 regarding the value share and to 0.751 regarding the transactions share for copper. It is 0.344 regarding the value share and 0.436 regarding the transactions share for fruit juice.⁴¹ Next, we pick two reference-priced goods (salt incl. table & dentrd., pure sodium chloride; HS 4-digit code 2501; and portland cement, aluminous cement, slag cement etc.; HS 4-digit code 2523). The LATE is 0.528 regarding the value share and 0.661 regarding the transactions share for salt. The respective figures amount to 0.540 and 0.497, and to 0.5 regarding the number of HS 8-digit product lines for cement.⁴² As an alternative, we consider two differentiated consumer goods (women's or girls' suits, ensemb. etc., not knit etc.; HS 4-digit code 6204; and motor cars & vehicles for transporting persons; HS 4-digit code 8703). For suits, the LATE is 0.346 regarding the value share, 0.339 regarding the transactions share, and 5 regarding the number

$$M_{ij} = b_{ij} t_{ij} \mu_i m_j u_{ij}, \tag{5}$$

 $[\]overline{^{40}}$ Notice that one could write M_{ij} in (1) generically as

where b_{ij} would be some ij-specific Armington-type parameter in the spirit of Anderson (1979) or Anderson and van Wincoop (2004) and t_{ij} is a measure of (exponentiated) pure trade costs. If one assumes in (1) that $b_{ij} = 1$ such that $t_{ij} = e^{\lambda \operatorname{language}_{ij}} d_{ij}$ or $t_{ij} = e^{\lambda_{CNL} \operatorname{CNL}_{ij}} e^{\lambda_{CSL} \operatorname{CSL}_{ij}} d_{ij}$, all effects of common language on bilateral imports are channeled through trade costs. In general, it could be that $b_{ij} = f(\operatorname{CNL}_{ij}, \operatorname{CSL}_{ij}, d_{ij})$ as well as $t_{ij} = f(\operatorname{CNL}_{ij}, \operatorname{CSL}_{ij}, d_{ij})$. In the latter case, λ_{CNL} would measure the net impact of common native language of j from i through preferences as well as trade costs. The evidence provided in this paper suggests that differentiated goods depend more strongly on common native language (i.e., common culture) than homogeneous goods which provides some implicit support for a role of native language in preferences rather than only trade costs. However, it is not possible to discern the two channels quantitatively, since identically indexed Armington and trade cost parameters exert an isomorphic impact on trade volume.

⁴¹A first-order polynomial specification is chosen by the AIC for both products.

⁴²A first-order polynomial specification is chosen by the AIC for salt, and a third-order polynomial specification is selected for cement.

of products. The LATE is 0.249 for the value share, 0.311 for the transactions share, 1.5 for the number of products, and -0.841 for the log unit value for *Cars.*⁴³ The choice of additional alternative products also provides significant results for LATE. Together with the results from Table 20, we conclude from this that native language barriers seem to relate more closely to fixed trade costs related to cultural differences. Although on average, the language effect seems to be more pronounced for reference-priced and differentiated goods than for homogenous goods, the analysis of individual products shows that the effect of common native language is overall important.

6 Conclusions

This paper combines three sources of information to isolate the impact of common native language as a measure of cultural proximity on international trade: geographical information about language zones in Switzerland; transaction-level data on international trade by geographical site in Switzerland; and the distance of importers to internal language borders within Switzerland as well as to national borders. These data let us infer the impact of common native language on international trade to language zones corresponding to the ones around the internal language border in Switzerland. The empirical framework chosen for such inference is a fuzzy regression discontinuity design, focusing on import transaction data of three language zones in Switzerland: German-speaking, French-speaking, and Italian-speaking. We consider different margins of trade of these zones from countries sharing a common language. We postulate flexible functional forms about the impact of distance-tointernal-language-border on such trade flows to identify the discontinuity of importing behavior at the internal language borders. Since Swiss citizens quite proficiently speak the respective other (non-native) main languages of the country, especially within regions in close proximity to internal language borders, we argue that this paper is able to estimate the effect of common native language capturing common cultural traits that generate common preferences, trust, and information about social norms of interaction, thereby leading to enhanced trade.

This strategy suggests effects of common native language of the following magnitude. The value share and the transactions share of a geographical unit from an import destination are 18 and 20 percentage points higher, respectively, if common native language is the same. The effect is about 102 for the number of products imported. We find no significant effect with respect to the unit value, the value

⁴³A first-order polynomial specification is chosen for suits, and a second-order polynomial specification is selected for cars.

per transaction, and the quantity per transaction. We conclude that – by reducing fixed rather than variable trade costs – speaking a common native language matters for extensive margins rather than intensive margins of trade. In addition, the local average treatment effect differs among transaction size classes and substantially so across industries, where it seems to be more important for differentiated goods categories rather than homogeneous products.

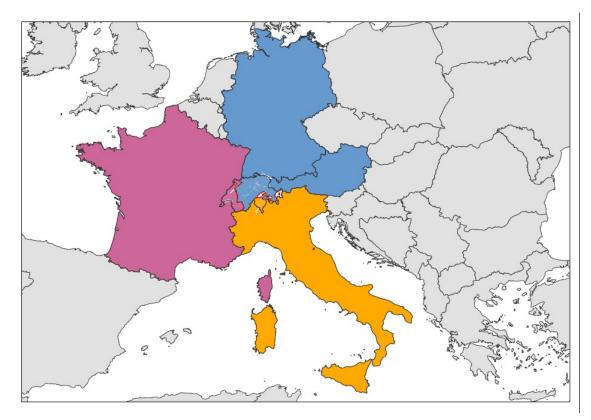
References

- Anderson, James E., and Eric van Wincoop, 2003. Gravity with Gravitas: A Solution to the Border Puzzle. American Economic Review 93 (1), 170–192.
- Anderson, James E., and Eric van Wincoop, 2004. Trade Costs. Journal of Economic Literature 42 (3), 691–751.
- Angrist, Joshua, and Jörn-Steffen Pischke, 2009. Mostly Harmless Econometrics: An Empiricist's Companion. Princeton University Press: London.
- Bossong, Georg, 2008. Die romanischen Sprachen. Eine vergleichende Einführung. Helmut Buske Verlag GmbH: Hamburg.
- Brügger, Beatrix, Rafael Lalive, and Josef Zweimüller, 2009. Does Culture Affect Unemployment? Evidence from the Röstigraben. IZA Discussion Papers No. 4283, Institute for the Study of Labor (IZA): Bonn.
- Chiswick, Barry R., 2008. The Economics of Language: An Introduction and Overview. IZA Discussion Paper No. 3568, Institute for the Study of Labor (IZA): Bonn.
- Casella, Alessandra, and James E. Rauch, 2002. Anonymous Market and Group Ties in International Trade. Journal of International Economics 58 (1), 19–47.
- Disdier, Anne-Célia, and Thierry Mayer, 2007. Je T'aime, Moi non Plus: Bilateral Opinions and International Trade. European Journal of Political Economy 23 (4), 1140–1159.
- Disdier, Anne-Célia, and Keith Head, 2008. The Puzzling Persistence of the Distance Effect on Bilateral Trade. The Review of Economics and Statistics 90 (1), 37–48.
- Eaton, Jonathan, and Samuel Kortum, 2002. Technology, Geography, and Trade. Econometrica 70 (5), 1741–1779.
- Egger, Peter H., and Andrea Lassmann, 2012. The Language Effect in International Trade: A Meta-Analysis. Economics Letters 116 (2), 221–224.
- Egger, Peter H., Mario Larch, Kevin Staub, and Rainer Winkelmann, 2011. The Trade Effects of Endogenous Preferential Trade Agreements. American Economic Journal: Economic Policy 3 (3), 113–143.
- Eugster, Beatrix, and Raphaël Parchet, 2011. Culture and Taxes: Towards Identifying Tax Competition. Cahiers de Recherches Economiques du Département d'Econométrie et d'Economie politique (DEEP), Université de Lausanne, Faculté des HEC, DEEP.
- Falck, Oliver, Stephan Heblich, Alfred Lameli, and Jens Südekum, 2012. Dialects, Cultural Identity, and Economic Exchange. Journal of Urban Economics 72 (2), 225–239.
- Felbermayr, Gabriel, and Farid Toubal, 2010. Cultural Proximity and Trade. European Economic Review 54 (2), 279–293.
- Fidrmuc, Jan, and Jarko Fidrmuc, 2009. Foreign Languages and Trade. CEPR Discussion Papers 7228, C.E.P.R.: London.
- Fidrmuc, Jan, and Victor Ginsburgh, 2007. Languages in the European Union: The Quest for Equality and Its Cost. European Economic Review 51 (6), 1351–1369.

- Frankel, Jeffrey A., and David Romer, 1999. Does Trade Cause Growth? American Economic Review 89 (3), 379–399.
- Fuji, Daisuke, Guido W. Imbens, and Karthik Kalyanaraman, 2009. Notes for Matlab and Stata Regression Discontinuity Software. Harvard University: Cambridge, MA.
- Gallmann, Heinz, 2010. Zürichdeutsches Wörterbuch. 2nd edition, Verlag Neue Zürcher Zeitung: Zürich.
- Greif, Avner, 1989. Reputation and Coalitions in Medieval Trade: Evidence on the Maghribi Traders. Journal of Economic History 49 (4), 857–882.
- Greif, Avner, 1993. Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition. American Economic Review 83 (3), 525–548.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2006. Does Culture Affect Economic Outcomes? Journal of Economic Perspectives 20 (2), 23–48.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2009. Cultural Biases in Economic Exchange? The Quarterly Journal of Economics 124 (3), 1095–1131.
- Hauser, Marc D., Noam Chomsky, and W. Tecumseh Fitch, 2002. The Faculty of Language: What Is It, Who Has It, and How Did It Evolve? Science 22 298 (5598), 1569–1579.
- Head, Keith, and Thierry Mayer, 2013. Gravity Equations: Workhorse, Toolkit, and Cookbook. CDEPR Discussion Paper no. 9322, C.E.P.R.: London.
- Helliwell, John F., 1996. Do National Borders Matter for Quebec's Trade? The Canadian Journal of Economics 29 (3), 507–522.
- Helliwell, John F., 1999. Language and Trade. In: Breton, Albert (Ed.), Exploring the Economics of Language. Canadian Heritage.
- Helpman, Elhanan, and Paul R. Krugman, 1985. Market Structure and Foreign Trade. Increasing Returns, Imperfect Competition and the International Economy. MIT Press: Cambridge, MA, and London.
- Helpman, Elhanan, Marc Melitz, and Yona Rubinstein, 2008. Estimating Trade Flows: Trading Partners and Trading Volumes. The Quarterly Journal of Economics 123 (2), 441–487.
- Holman, Eric, Christian Schultze, Dietrich Stauffer, and Søren Wichmann, 2007. On the Relation between Structural Diversity and Geographical Distance among Languages: Observations and Computer Simulations. Linguistic Typology 11 (2), 393–422.
- Imbens, Guido W., and Thomas Lemieux, 2008. Regression Discontinuity Designs: A Guide to Practice. Journal of Econometrics 142 (2), 615–635.
- Imbens, Guido W., and Karthik Kalyanaraman, 2012. Optimal Bandwidth Choice for the Regression Discontinuity Estimator. Review of Economic Studies 79 (3), 933–959.
- Janeba, Eckhard, 2007. International Trade and Consumption Network Externalities. European Economic Review 51 (4), 781–803.
- Kónya, István, 2006. Modeling Cultural Barriers in International Trade. Review of International Economics 14 (3), 494–507.

- Krugman, Paul R., 1980. Scale Economies, Product Differentiation, and the Pattern of Trade. American Economic Review 70 (5), 950–959.
- Laitin, David, 2000. What Is A Language Community? American Journal of Political Science 44 (1), 142–155.
- Lee, David S., and Thomas Lemieux, 2010. Regression Discontinuity Designs in Economics. Journal of Economic Literature 48 (2), 281–355.
- Liver, Ricarda, 2010. Rätoromanisch: Eine Einführung in das Bündnerromanische. 2nd edition, Narr Francke Attempto Verlag GmbH & Co. KG: Tübingen.
- Lewis, M. Paul (ed.), 2009. Ethnologue: Languages of the World. 16th edition, SIL International: Dallas, TX. Online version: http://www.ethnologue.com/
- Matser, Carine, Jan Pieter van Oudenhoven, Francoise Askevis-Leherpeux, Arnd Florack, Bettina Hannover, and Jerôme Rossier, 2010. Impact of Relative Size and Language on the Attitudes between Nations and Linguistic Groups: The Case of Switzerland. Applied Psychology: An International Review 59 (1), 143–158.
- McCallum, John, 1995. National Borders Matter: Canada-U.S. Regional Trade Patterns. American Economic Review 85 (3), 615–623.
- Melitz, Jacques, 2008. Language and Foreign Trade. European Economic Review 52 (4), 667–699.
- Melitz, Jacques, 2012. A Framework for Analyzing Language and Welfare. CEPR Discussion Papers 9091, C.E.P.R.: London.
- Melitz, Jacques, and Farid Toubal, 2012. Native Language, Spoken Language, Translation and Trade. CEPR Discussion Papers 8994, C.E.P.R.: London.
- Melitz, Marc J., 2003. The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity. Econometrica 71 (6), 1695–1725.
- Obstfeld, Maurice and Kenneth Rogoff, 2001. The Six Major Puzzles in International Macroeconomics: Is There A Common Cause? NBER Macroeconomics Annual 2000, NBER: Cambridge, MA, 339–412.
- Rauch, James E., 1999. Networks Versus Markets in International Trade. Journal of International Economics 48 (1), 7–35.
- Rauch, James E., and Vitor Trindade, 2002. Ethnic Chinese Networks in International Trade. The Review of Economics and Statistics 84 (1), 116–130.
- Sauter, Nikolas, 2012. Talking Trade: Language Barriers in Intra-Canadian Commerce. Empirical Economics 42 (1), 301–323.
- Wooldridge, Jeffrey M., 2002. Econometric Analysis of Cross Section and Panel Data. MIT Press: Cambridge, MA, and London.

Figure 1: Language regions in Switzerland and neighboring countries by native language majority



Data Source: Wikipedia; 1990 Census, Swiss Federal Statistical Office.

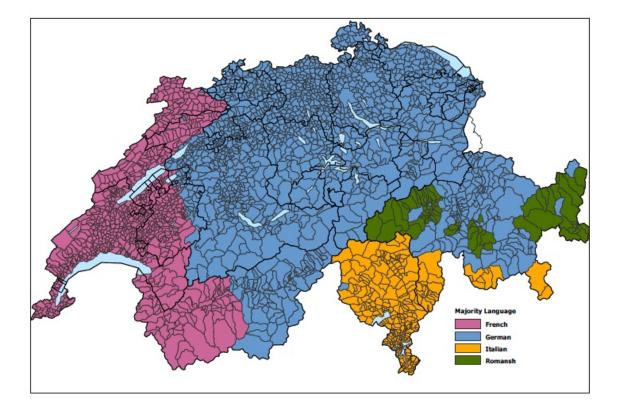
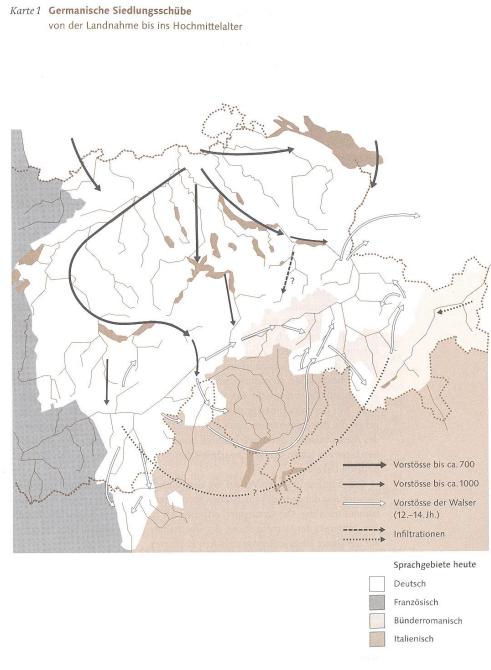


Figure 2: Language regions in Switzerland by native language majority

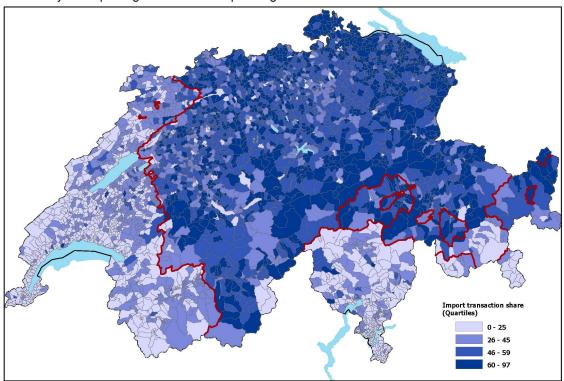
Data Source: 1990 Census, Swiss Federal Statistical Office. Thin lines represent municipality borders, bold lines indicate cantonal and national borders. Official 50% majority cutoff. Those borders are the same as the historical language borders associated with the political formation of Switzerland.

Figure 3: Historic language regions in Switzerland



Source: Gallmann, 2010.

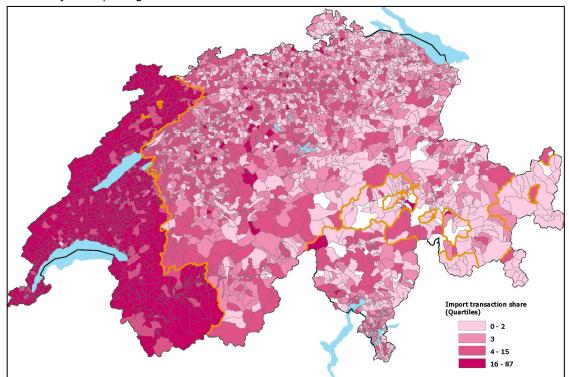
Figure 4: Share of transactions from German-speaking countries in total transactions by zip code in %



Probability for importing from German-speaking border countries

Data source: Swiss Federal Customs Administration 2006–2011 and 1990 Census, Swiss Federal Statistical Office. Bold red lines represent language borders, thin lines indicate zip code regions.

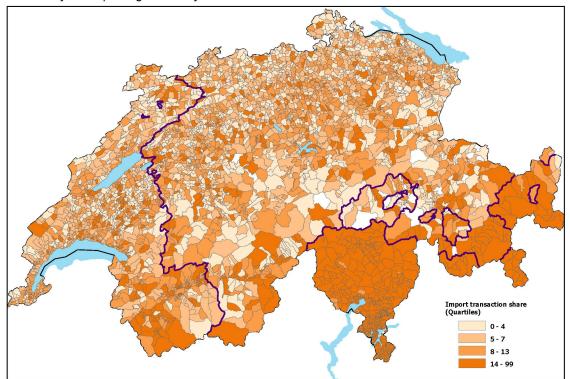
Figure 5: Share of transactions from France in total transactions by zip code in %



Probability for importing from France

Data source: Swiss Federal Customs Administration 2006–2011 and 1990 Census, Swiss Federal Statistical Office. Bold yellow lines represent language borders, thin lines indicate zip code regions.

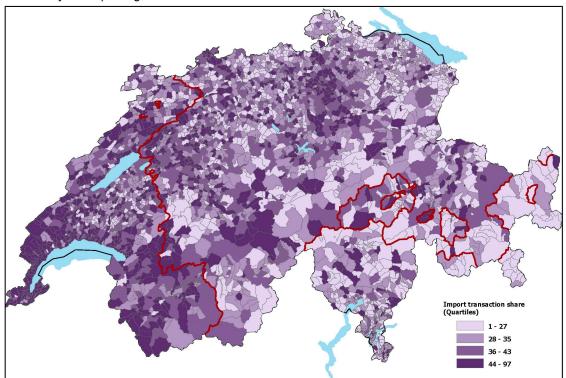
Figure 6: Share of transactions from Italy in total transactions by zip code in %



Probability for importing from Italy

Data source: Swiss Federal Customs Administration 2006–2011 and 1990 Census, Swiss Federal Statistical Office. Bold purple lines represent language borders, thin lines indicate zip code regions.

Figure 7: Share of transactions from RoW in total transactions by zip code in %



Probability for importing from Rest of World

Data source: Swiss Federal Customs Administration 2006–2011 and 1990 Census, Swiss Federal Statistical Office. Bold red lines represent language borders, thin lines indicate zip code regions.

			Characte	Characteristics of regions at the German-French language border within Switzerland	German-French langu	uage border w	rithin Switzerland			
		Swis	Swiss officially German-speaking regions	eaking regions			Swis	Swiss officially French-speaking regions	eaking regions	
Distance to language border in kilometers	% German speakers	% imports from German-speaking	% imports from French-speaking	% transactions from German-speaking	% transactions from French-speaking	% French speakers	% imports from German-speaking	% imports from French-speaking	% transactions from German-speaking	% transactions from French-speaking
		COMINIES		COMINIES	All regional units		CONTRILES	COMINIES	000111162	COMINIES
10	100	15.0	101	10.0		0.00	10.0	10.0	010	
	85.2	37.8	0.01	40.0 35 8	0.0	02.0 81.4	40.0 35.0	17.0	31 a	15.0
2-F	01.6	0.10	1.0 1.0	0.00 A3 A	- r. 1 -	87.0	30.5	0.01	2.10	23.B
5-10	07.50	51 0	5. A	C 07	46	5.00	311	20.2	20.2	216
0-10 10-20	0.76 V 70	01.9 503	0.7 8 9	43.2 50 7	0. W	90.0 0 0 0	0.1.0	26.4	26.0	0.12
20-50	4.70	02.30 52 7	0.0	49.4	5 C	97.9 94.6	25.7	31.3	23.5	24.2
All	96.8	53.8	5.1	51.9	3.6	91.9	24.8	29.7	22.9	23.7
			dional	units within cantons thro	tons through which intranational	FR/DE I	anguage border runs			
0-1	83.5	44.8	5	38.3	5.1	66.5		13.8	33.2	14.8
1-2	86.8		10.3	32.1	7.6	75.4	40.6	20.8	28.2	17.6
2-5	94.2	40.3	7.1	40.5	4.7	85.6	30.9	26.7	26.1	23.5
5-10	97.1	50.9	7.5	48.4	5.0	90.8	29.9	26.2	27.1	22.4
10-20	97.6	52.4	6.9	49.5	4.8	93.1	30.0	24.4	26.7	22.1
20-50	98.2	53.0	6.5	48.3	4.1	96.1	25.8	27.5	22.3	22.9
AII	96.9	50.9	6.9	47.1	4.5	91.5	29.2	25.5	25.3	22.1
			Cha	racteristics of regions at the	German-Italian	language border w	ithin Switzerland			
		Swis:	Swiss officially German-speaking regions	eaking regions			Swis	Swiss officially Italian-speaking regions	eaking regions	
Distance to language	% German	% imports from German-speaking	% imports from Italian-speaking	% transactions from German-speaking	% transactions from Italian-speaking	% Italian	% imports from German-speaking	% imports from Italian-speaking	% transactions from German-speaking	% transactions from Italian-speaking
	spearers	countries	countries	countries	countries All regional units	sheavers	countries	countries	countries	countries
0-1				,		70.0	10	81 G	OR	63 0
1-0	60.7	30.9	59.0	23.4	62.4	71.4	e e	0.10	3.0 18.6	58.1
2-5	919	41.9	42.8	36.1	35.5	90.4	25.3	50.3	15.0	611
5-10	91.3	60.4	28.7	43.8	25.5	88.0	24.8	59.1	19.7	60.3
10-20	94.3	59.4	22.7	50.1	21.2	90.6	25.1	58.5	23.7	47.8
20-50	98.2	57.6	12.6	52.2	9.9	86.2	22.4	58.7	20.9	50.1
AII	96.5	53.8	9.7	51.9	8.6	87.3	19.4	59.8	18.6	52.2
			Regional	Regional units within cantons through which intranational	ugh which intranation	IT/DE	language border runs			
0-1						79.0	4.9	81.6	9.6	63.9
1-2	68.5	37.6	49.4	25.6	58.6	71.4	2.6	83.0	18.6	58.1
2-5	89.8	32.7	51.9	33.2	43.4	87.3	40.1	50.4	15.4	63.5
5-10	89.5	54.9	34.2	44.3	28.5	81.9	16.7	72.2	14.8	72.7
10-20	93.6	58.7	24.9	47.8	23.3	87.8	14.1	66.7	18.2	62.0
20-50	98.0	57.9	13.8	51.2	11.3	88.6	23.5	61.3	23.5	54.6
AII	95.9	56.3	19.0	49.0	16.3	86.1	20.0	65.2	19.2	61.4

Source: Swiss Federal Customs Administration 2006–2011 (EDEC). Distance measured by great circle distance to the language border.

Table 1: Descriptive statistics about imports and official language use within the three most important language districts in Switzerland

			Character	Characteristics of regions at the German-French language border within Switzerland	German-French lang	age border w	vithin Switzerland			
		Swis	Swiss officially German-speaking regions	eaking regions			Swis	Swiss officially French-speaking regions	aking regions	
Distance to language border in kilometers	% German speakers	# products (HS 8) from German- speaking countries	<pre># products (HS 8) from French- speaking countries</pre>	Log unit value from German-speaking countries	Log unit value from French-speaking countries	% French speakers	<pre># products (HS 8) from German- speaking countries</pre>	<pre># products (HS 8) from French- speaking countries</pre>	Log unit value from German-speaking countries	Log unit value from French-speaking countries
		6			All regional units			0		
-1	2 U Q	122	00	53	2	67 D	202	110	БЛ	1 E
- 0	85.2	508	30 160	5.3	0.0 5.7	02.0 81.4	402	267	5.2	5.0
2-5	946	578	120	5.4	5.1	87.0	283	214	5.2	200
5-10	97.5	401	89	102	4.7	90.5	284	178	20	2.2
02-0	97.4	523	68	5.1	4.6	92.9	205	170	5.3	1.0
20-50	97.8	621	113	5.0	4.7	94.6	228	206	5.1	5.0
All	96.8	660	107	5.1	4.8	91.9	287	273	5.3	5.3
			Regional ur	onal units within cantons through	whic	FR/DF	language border runs			
0-1	83.5	375	104			66.5	249	129	5.2	4.6
- 2	86.8	573	191	5.4	5.8	75.4	452	298	5.2	5.1
2-5	94.2	480	113	5.5	, <u>c</u>	85.6	307	231	5.3	5.4
5-10	97.1	398	80	5.0	4.7	90.8	276	181	15	5.2
10-20	97.6	345	55	5.0	4.5	93.1	186	149	5.2	5.0
20-50	98.2	500	83	5.1	4.7	96.1	210	194	5.0	4.8
۱ <u>ــــــــــــــــــــــــــــــــــــ</u>	96.9	459	84	5.1	4.7	91.5	230	183	5.1	5.0
			Characteristics of	ristics of regions at the	regions at the German-Italian langu	age border w	language border within Switzerland			
		Swis	Swiss officially German-speaking regions	aking regions			Swis	Swiss officially Italian-speaking regions	aking regions	
									•	•
Distance to language border in kilometers	% German speakers	# products (HS 8) from German- speaking countries	# products (HS 8) from Italian- speaking countries	Log unit value from German-speaking countries	Log unit value trom Italian-speaking countries	% Italian speakers	<pre># products (HS 8) from German- sneaking countries</pre>	# products (HS 8) from Italian- speaking countries	Log unit value trom German-speaking countries	Log unit value from Italian-speaking countries
		0	0		All regional units		6	D		
0-1						79.0	27	116	4.5	4.9
2	60.7	30	67	4.4	4.2	71.4	7	17	5.1	6.0
2-5	91.9	109	55	4.7	3.7	90.4	71	171	5.0	3.5
10	91.3	210	141	5.1	4.0	88.0	87	163	4.6	4.4
)-20	94.3	214	204	4.8	3.8	90.6	83	142	4.6	4.0
20-50	98.2	345	84	5.0	4.4	86.2	207	372	5.1	4.3
AII	96.5	660	166	5.1	4.5	87.3	204	420	5.1	4.4
			Regional u	units within cantons through	ough which intranationa	I IT/DE	anguage border runs			
0-1						79.0	27	116	4.5	4.9
1-2	68.5	37	84	4.4	4.6	71.4	7	17	5.1	6.0
ъ С	89.8	82	58	4.5	3.2	87.3	74	235	6.7	3.0
5-10	89.5	236	168	5.1	3.9	81.9	110	248	4.9	4.1
10-20	93.6	233	226	4.9	3.9	87.8	62	215	4.5	3.6
)-50	98.0	248	20	4.9	4.4	88.6	52	238	4.9	3.6
-			00							

Table 2: Descriptive statistics about trade and official language use within the three most important language districts in Switzerland (continued) Source: Swiss Federal Customs Administration 2006–2011 (EDEC). Distance measured by great circle distance to the language border.

	Swiss	Swiss officially German-speaking regions	eaking regions					Swiss officially French-speaking regions	eaking regions	
Distance to language	% German	Log value/transaction	Log value/transaction	Log quantity/transaction	Log quantity/transaction	% French	Log value/transaction	Log value/transaction	Log quantity/transaction	Log quantity/transaction
		speaking countries	spe	speaking countries	speaking countries	spearers	speaking countries	speaking countries	speaking countries	speaking countries
					All regional units					
0-1	80.7	8.2	8.4	6.3	7.0	62.8	8.3	8.2	6.7	6.5
1-2	85.2	8.0	8.2	6.2	6.5	81.4	8.3	8.4	6.7	7.3
2-5	94.6	8.4	8.5	6.8	6.8	87.0	8.3	8.4	6.9	6.8
5-10	97.5	8.3	8.2	6.7	6.7	90.5	8.3	8.4	6.7	6.8
10-20	97.4	8.2	8.3	6.7	6.9	92.9	8.2	8.2	6.6	6.9
50-50	97.8	8.3	8.3	6.8	7.0	94.6	8.2	8.4	6.5	7.3
All	96.8	8.4		6.9	6.6	91.9	8.2	8.4	6.5	7.1
			Regional	antons	through which intranations		language border runs			
0-1	83.5	8.2	8.4	6.4	6.6	66.5	8.4	8.2	6.7	6.5
1-2	86.8	8.1	8.2	6.1	6.0	75.4	8.4	8.1	6.8	7.0
5	94.2	8.2	8.4	6.5	6.5	85.6	8.4	8.4	7.0	6.9
5-10	97.1	8.3	8.4	6.7	7.1	90.8	8.4	8.4	6.8	6.8
10-20	97.6	8.2	8.2	6.6	6.9	93.1	8.1	8.2	6.6	6.8
0-50	98.2	8.2	8.1	6.6	6.8	96.1	8.1	8.2	6.5	7.1
	96.9	8.2	8.2	6.6	6.8	91.5	8.2	8.2	6.6	6.9
			Charact	eristics of regions at the	e German-Italian language	border	within Switzerland			
	Swiss	Swiss officially German-spe	man-speaking regions				Sw	Swiss officially Italian-speaking regions	eaking regions	
		50	50	50	50		100	50	50	50
Distance to language	% German sneakers	value/transaction from German-	value/t from Itali	quantity/transaction from German-	quantity/transaction from Italian-sneaking	% Italian sneakers	value/transaction from German-	value/transaction from Italian-sneaking	quantity	quantity/transaction
				speaking countries	countries		speaking countries	countries	ß	countries
					All regional units					
	•	• }	•	•	• ;	79.0	7.4	8.3	5.7	7.8
1-2	60.7	8.5	7.7	5.4	7.6	71.4	5.0	7.4	0.2	4.2
-5	91.9	7.9	8.3	6.2	8.3	90.4	8.7	8.4	6.4	7.8
-10	91.3	8.6	7.9	6.7	8.6	88.0	8.3	8.2	6.3	7.1
0-20	94.3	8.1	7.9	6.6	7.6	90.6	7.9	8.4	6.0	7.6
20-50	98.2	8.2	7.9	6.7	8.0	86.2	8.1	8.3	6.1	7.2
AII	96.5	8.4	8.1	ര	6.0			8.3	6.0	7.4
			Regional	Regional units within cantons through	rough which intranation	al IT/DE lang	anguage border runs			
0-1			• 1	• ;	• ;	79.0	7.4	8.3	5.7	7.8
7-1	68.5	8.8	9.7	5.7	2°./	71.4	5.0	1.4	0.2	4.2
2-5	89.8 20 1	7.6	8.3	6.0	8.1	87.3	6.6 6	8.0	7.5	7.4
01-0	6.99	Q.D	6.5 	0.5	1.1	81.9	0.3 1	8.2	0.4	0.7
10-20	93.6	8.1	7.7	6.7	6.0	87.8	7.9	8.3	6.4	7.6
20-50	98.0	8.1	7.9	6.6	5.9	88.6	7.7	8.1	5.4	7.6
=				20						

Source: Swiss Federal Customs Administration 2006–2011 (EDEC). Distance measured by great circle distance to the language

border.

Table 3: Descriptive statistics about trade and official language use within the three most important language districts in Switzerland (continued)

• code regions in different language districts and in various distance intervals around	
e interva	
distance	
various	
and in	
districts	
code regions in different language districts and in various distance intervals ε	
different	
ns in	
regio	IS
code	borde
of zip	guage
Number o	Swiss lange
Z	
Table 4:	internal S

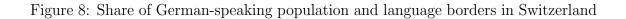
	Official Is	Official language		Official language	iquade	
Number of zip codes in French-German part	French	German	Number of zip codes in German-Italian part	German	Italian	Unique sum
		Usin	Using great circle distances			
Within 1km of FR/DE intranational border	14	15	Within 1km of DE/IT intranational border	0	٢	30
Within 5km of FR/DE intranational border	20	81	Within 5km of DE/IT intranational border	13	10	174
Within 10km of FR/DE intranational border	131	160	Within 10km of DE/IT intranational border	25	29	345
Within 20km of FR/DE intranational border	268	318	Within 20km of DE/IT intranational border	50	70	206
Within 50km of FR/DE intranational border	543	739	Within 50km of DE/IT intranational border	235	198	1700
All	808	1993	All	1993	278	3079
Within 1km of FR/DE intranational border	12	11	Within 1km of DE/IT intranational border	0	٢	24
Within 5km of FR/DE intranational border	48	62	Within 5km of DE/IT intranational border	10	5	125
Within 10km of FR/DE intranational border	84	112	Within 10km of DE/IT intranational border	20	13	229
Within 20km of FR/DE intranational border	171	200	Within 20km of DE/IT intranational border	42	22	435
Within 50km of FR/DE intranational border	281	475	Within 50km of DE/IT intranational border	152	36	929
Through which intranational FR/DE language border runs	281	517	Through which intranational DE/IT language border runs	151	37	986
		ſ	Using road distances			
Within 1km of FR/DE intranational border	16	18	Within 1km of DE/IT intranational border	4	5	43
Within 5km of FR/DE intranational border	61	59	Within 5km of DE/IT intranational border	1	12	143
Within 10km of FR/DE intranational border	109	121	Within 10km of DE/IT intranational border	19	18	267
Within 20km of FR/DE intranational border	232	259	Within 20km of DE/IT intranational border	30	32	553
Within 50km of FR/DE intranational border	561	726	Within 50km of DE/IT intranational border	120	79	1482
All	808	1993	All	1993	278	3079
Within 1km of FR/DE intranational border	14	16	Within 1km of DE/IT intranational border	4	з	37
Within 5km of FR/DE intranational border	43	50	Within 5km of DE/IT intranational border	10	8	111
Within 10km of FR/DE intranational border	69	94	Within 10km of DE/IT intranational border	16	10	189
Within 20km of FR/DE intranational border	144	169	Within 20km of DE/IT intranational border	25	16	354
Within 50km of FR/DE intranational border	258	434	Within 50km of DE/IT intranational border	101	31	820
Through which intranational FR/DE language border runs	281	517	Through which intranational DE/IT language border runs	151	37	986

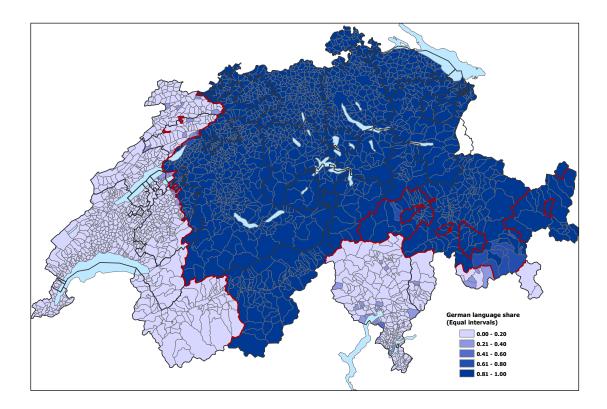
Source: 1990 Census, Swiss Federal Statistical Office. Distance measured by great circle distance to the language border.

	German-Fre	nch speaking	German-French speaking language border regions	ler regions	German-Itali	an speaking l.	German-Italian speaking language border regions	er regions
	German speakers	peakers	French speakers	eakers	German speakers	oeakers	Italian speakers	eakers
Distance bins from language border	DE regions	FR regions	DE regions	FR regions	DE regions	IT regions	DE regions	IT regions
Within 1km of language border	80.7	36.1	18.4	62.8		21.0		79.0
Within 5km of language border	89.5	17.9	9.2	80.6	82.3	11.9	16.9	87.4
Within 10km of language border	93.4	13.2	5.5	85.2	86.6	11.5	12.6	87.8
Within 20km of language border	95.4	9.5	3.5	89.2	90.4	9.5	8.8	89.4
Within 50km of language border	96.8	6.9	2.0	91.9	96.5	11.2	2.9	87.3
All	96.8	6.9	2.0	91.9	96.5	11.2	2.9	87.3
Within 1km of language border	83.5	32.2	15.6	66.5		21.0	,	79.0
Within 5km of language border	90.2	19.8	8.7	78.7	83.4	17.6	15.8	82.4
Within 10km of language border	93.3	14.5	5.8	83.9	86.5	17.5	12.6	82.1
Within 20km of language border	95.2	10.1	4.0	88.6	90.2	14.9	9.0	84.4
Within 50km of language border	96.9	7.4	2.2	91.5	95.9	13.1	3.5	86.1
Through which language border runs	96.9	7.4	2.2	91.5	95.9	13.1	3.5	86.1

e	
uag	
ang	
ss l	
Swi	
ernal Swiss language	
nter:	
nares according to language in various distance intervals around internal Swiss language	
oun	
s ar	
vals	
nter	
ce ii	
tanc	
dis	
ous	
vari	
in	
age	
ngu	
o lai	
ő t	
din	
CCOI	
es a	
hare	
n sl	
atio	
pul	8
Ро	in ²
e 5:	ers
[ab]	ord
L T	<u> </u>

Source: 2000 Census, Swiss Federal Statistical Office. Distance measured by great circle distance to the language border.





Data Source: 2000 Census, Swiss Federal Statistical Office. Thin lines represent municipality borders, bold lines indicate cantonal and national borders and red lines indicate language borders according to the official 50% rule. The figure shows the share of German-speaking population in German, French, and Italian speaking population.

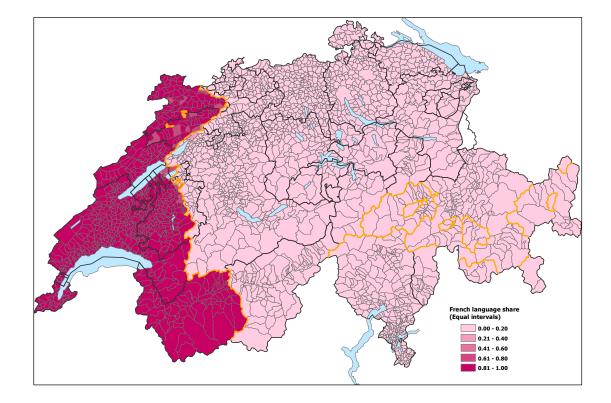
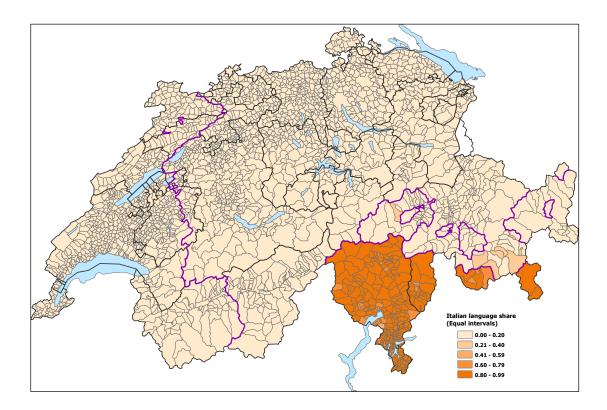


Figure 9: Share of French-speaking population and language borders in Switzerland

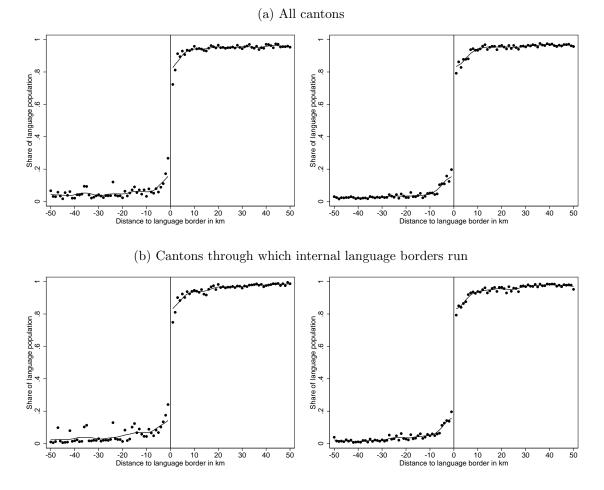
Source: 2000 Census, Swiss Federal Statistical Office. Thin lines represent municipality borders, bold lines indicate cantonal and national borders and yellow lines indicate language borders according to the official 50% rule. The figure shows the share of French-speaking population in German, French, and Italian speaking population.

Figure 10: Share of Italian-speaking population and language borders in Switzerland



Source: 2000 Census, Swiss Federal Statistical Office. Thin lines represent municipality borders, bold lines indicate cantonal and national borders and purple lines indicate language borders according to the official 50% rule. The figure shows the share of Italian-speaking population in German, French, and Italian speaking population.

Figure 11: Treatment probability by great circle (left) and road distance (right) to language border



Notes: Treated observations (common language) to the right side of the language border (positive distance) and control observations (non-common language) to the left side of the language border (negative distance) in all figures.

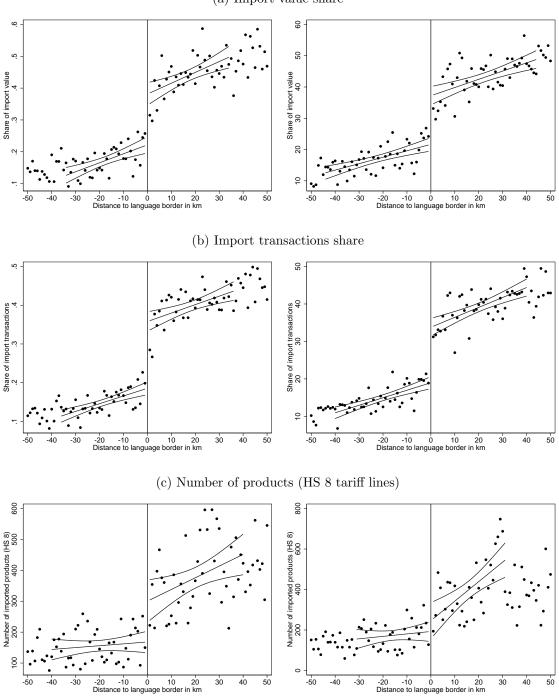
Table 6: LATE estimates of the impact of common language on imports from common language speaking bordering countries to Switzerland (using road distance to the language border)

effect with parametric	1st order	Baseline re 2nd order	3rd order	Nonparam.	Inc 1st order	luding distance to 2nd order	3rd order	Nonparam
polynomial or nonparametric control function	(1)		within the two resp (3)					(8
/alue share	(1)	(2)	(3)	(4)	(3)	(0)	(1)	(0
Treatment	0.187	0.179	0.132	0.179	0.194	0.184	0.134	0.18
Houthon	(0.019)***	(0.032)***	(0.045)***	(0.025)***	(0.019)***	(0.031)***	(0.043)***	(0.025)**
Obs.	2968	2968	2968	2623	2968	2968	2968	2623
Cent. R-squ./Bandwidth	0.339	0.338	0.334	44	0.383	0.382	0.380	44
·								
Transactions share								
Treatment	0.202	0.196	0.185	0.196	0.209	0.201	0.187	0.202
	(0.015)***	(0.025)***	(0.035)***	(0.022)***	(0.014)***	(0.024)***	(0.034)***	(0.022)**
Obs.	2968	2968	2968	2355	2968	2968	2968	235
Cent. R-squ./Bandwidth	0.413	0.413	0.412	40	0.466	0.465	0.464	40
Normalistic of more diverse (1100 series	(U)							
Number of products (HS8 tarif Treatment	186.369	77,463	78.381	102.085	184.343	84.918	89.690	107.576
Treatment				(53.857)*				
Obs.	(40.574)*** 2968	(66.924) 2968	(93.802) 2968	(53.657) 1836	(40.380)*** 2968	(66.794) 2968	(93.809) 2968	(52.893)* 1836
Cent. R-squ./Bandwidth	0.074	0.078	0.078	31	0.079	0.083	0.083	3
Cent. K-Squ./Bandwidth	0.074	0.078	0.078	51	0.079	0.065	0.065	5
Log unit value								
Treatment	0.086	0.059	-0.147	0.081	0.088	0.085	-0.112	0.089
rieaunent	(0.109)	(0.180)	(0.253)	(0.125)	(0.108)	(0.179)	(0.252)	(0.124
Obs.	2954	2954	2954	2954	2954	2954	2954	295
Cent. R-squ./Bandwidth	0.010	0.011	0.011	50	0.020	0.021	0.021	50
Log value per transaction								
Treatment	-0.052	-0.081	-0.233	-0.059	-0.067	-0.083	-0.227	-0.068
	(0.089)	(0.147)	(0.207)	(0.092)	(0.089)	(0.147)	(0.207)	(0.092
Obs.	2954	2954	2954	2954	2954	2954	2954	2954
Cent. R-squ./Bandwidth	0.002	0.003	0.004	50	0.009	0.010	0.011	50
Log quantity per transaction								
Treatment	0.017	-0.254	-0.289	-0.177	-0.023	-0.260	-0.275	-0.183
	(0.160)	(0.265)	(0.372)	(0.210)	(0.158)	(0.263)	(0.370)	(0.210
Obs.	2954	2954	2954	2163	2954	2954	2954	2163
Cent. R-squ./Bandwidth	0.004	0.006	0.006	36	0.022	0.022	0.022	36
		A	Il regions to left an	d right of language	ge border within th	ne same canton		
Value share		А	Il regions to left an	d right of languag	ge border within th	ne same canton		
Value share Treatment	0.155	A 0.174	Il regions to left an 0.153	d right of languag 0.163	ge border within th 0.163	ne same canton 0.162	0.137	0.160
	0.155 (0.025)***						0.137 (0.051)***	
Treatment Obs.	(0.025)*** 1644	0.174 (0.039)*** 1644	0.153 (0.052)*** 1644	0.163	0.163 (0.024)*** 1644	0.162 (0.038)*** 1644	(0.051)*** 1644	0.160 (0.031)*** 1468
Treatment	(0.025)***	0.174 (0.039)***	0.153 (0.052)***	0.163 (0.031)***	0.163 (0.024)***	0.162 (0.038)***	(0.051)***	(0.031)** 1468
Treatment Obs. Cent. R-squ./Bandwidth	(0.025)*** 1644	0.174 (0.039)*** 1644	0.153 (0.052)*** 1644	0.163 (0.031)*** 1468	0.163 (0.024)*** 1644	0.162 (0.038)*** 1644	(0.051)*** 1644	(0.031)** 1468
Treatment Obs. Cent. R-squ./Bandwidth Transactions share	(0.025)*** 1644 0.357	0.174 (0.039)*** 1644 0.359	0.153 (0.052)*** 1644 0.358	0.163 (0.031)*** 1468 43	0.163 (0.024)*** 1644 0.397	0.162 (0.038)*** 1644 0.397	(0.051)*** 1644 0.397	(0.031)** 1468 43
Treatment Obs. Cent. R-squ./Bandwidth	(0.025)*** 1644 0.357 0.180	0.174 (0.039)*** 1644 0.359 0.197	0.153 (0.052)*** 1644 0.358 0.229	0.163 (0.031)*** 1468 43 0.193	0.163 (0.024)*** 1644 0.397 0.187	0.162 (0.038)*** 1644 0.397 0.186	(0.051)*** 1644 0.397 0.215	(0.031)*** 1468 43 0.189
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment	(0.025)*** 1644 0.357 0.180 (0.019)***	0.174 (0.039)*** 1644 0.359 0.197 (0.030)***	0.153 (0.052)*** 1644 0.358 0.229 (0.040)***	0.163 (0.031)*** 1468 43 0.193 (0.026)***	0.163 (0.024)*** 1644 0.397 0.187 (0.018)***	0.162 (0.038)*** 1644 0.397 0.186 (0.029)***	(0.051)*** 1644 0.397 0.215 (0.039)***	(0.031)*** 1468 43 0.188 (0.026)***
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs.	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644	0.163 (0.031)*** 1468 43 0.193 (0.026)*** 1352	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644	(0.031)*** 1468 43 0.189 (0.026)*** 1352
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment	(0.025)*** 1644 0.357 0.180 (0.019)***	0.174 (0.039)*** 1644 0.359 0.197 (0.030)***	0.153 (0.052)*** 1644 0.358 0.229 (0.040)***	0.163 (0.031)*** 1468 43 0.193 (0.026)***	0.163 (0.024)*** 1644 0.397 0.187 (0.018)***	0.162 (0.038)*** 1644 0.397 0.186 (0.029)***	(0.051)*** 1644 0.397 0.215 (0.039)***	(0.031)*** 1468 43 0.189 (0.026)*** 1352
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644	0.163 (0.031)*** 1468 43 0.193 (0.026)*** 1352	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644	(0.031)*** 1468 43 0.189 (0.026)*** 1352
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines)	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454	0.163 (0.031)*** 1468 43 (0.193 (0.026)*** 1352 39	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498	(0.031)*** 1468 43 0.188 (0.026)*** 1352 39
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644 0.495 185.618	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498	(0.031)*** 1468 43 0.186 (0.026)*** 1352 35 128.002
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)***	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093 (69.482)	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395)	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)**	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644 0.495 185.618 (44.020)***	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115)	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066)	(0.031)*** 1466 43 (0.026)*** 1355 39 128.002 (61.903)*
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs.	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644	0.174 (0.039)*** 1644 0.359 (0.030)*** 1644 0.450 112.093 (69.482) 1644	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)** 1205	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644	(0.031)*** 1466 43 0.188 (0.026)*** 1352 36 128.002 (61.903)** 1205
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)***	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093 (69.482)	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395)	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)**	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644 0.495 185.618 (44.020)***	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115)	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066)	(0.031)*** 1466 43 0.188 (0.026)*** 1352 36 128.002 (61.903)** 1205
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644	0.174 (0.039)*** 1644 0.359 (0.030)*** 1644 0.450 112.093 (69.482) 1644	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)** 1205	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644	(0.031)*** 1466 43 0.188 (0.026)*** 1352 36 128.002 (61.903)** 1205
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079	0.174 (0.039)*** 1644 0.359 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)** 1205 34	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644 0.094	(0.031)*** 1466 43 0.185 (0.026)*** 1355 35 (0.026)*** 128.002 (61.903)** 1205 34
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079 0.050	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081	0.163 (0.031)*** 1468 43 0.193 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644 0.094 -0.065	(0.031)*** 1468 43 0.188 (0.026)*** 1352 33 128.002 (61.903)** 1205 34 0.096
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 if lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136)	0.174 (0.039)*** 1644 0.359 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214)	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287)	0.163 (0.031)*** 1468 43 0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197)	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135)	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212)	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644 0.094 -0.065 (0.286)	(0.031)*** 1468 4: 0.188 (0.026)*** 1352 3: 128.002 (61.903)** 1205 3: 0.099 (0.195
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs.	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079 0.050	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081	0.163 (0.031)*** 1468 43 0.193 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644 0.094 -0.065	(0.031)** 146i 4: 0.188 (0.026)** 1352 128.002 (61.903)* 1209 3: 0.099 (0.195 1492
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633	0.174 (0.039)*** 1644 0.359 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (33.066) 1644 0.094 -0.065 (0.286) 1633	(0.031)** 146i 4: 0.188 (0.026)** 1352 128.002 (61.903)* 1209 3: 0.099 (0.195 1492
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs.	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633	0.174 (0.039)*** 1644 0.359 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (33.066) 1644 0.094 -0.065 (0.286) 1633	(0.031)** 146i 4: 0.188 (0.026)** 1352 128.002 (61.903)* 1209 3: 0.099 (0.195 1492
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633	0.174 (0.039)*** 1644 0.359 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (33.066) 1644 0.094 -0.065 (0.286) 1633	(0.031)** 1460 43 0.188 (0.026)** 1352 33 128.002 (61.903)* 1200 34 0.099 (0.195 1492 44
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633 0.021	0.174 (0.039)*** 1644 0.359 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633 0.023	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633 0.024	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492 44	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633 0.038	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633 0.038	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (33.066) 1644 0.094 -0.065 (0.286) 1633 0.040	(0.031)** 146 4: 0.188 (0.026)** 135: 3: 128.002 (61.903)* 120: 3: 0.099 (0.195 149; 4: 4: -0.177
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633 0.021 -0.169	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633 0.023 -0.181	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633 0.024	0.163 (0.031)*** 1468 43 0.193 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492 44 -0.173	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633 0.038	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633 0.038	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644 0.094 -0.065 (0.286) 1633 0.040 -0.417	(0.031)** 146i 4: 0.18i (0.026)** 135; 3: 128.00; (61.903)* 120; (61.903)* 120; 3: 0.099; (0.195) 149; 4: 4: -0.17; (0.121)
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 if lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633 0.021 -0.169 (0.115)	0.174 (0.039)*** 1644 0.359 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633 0.023 -0.181 (0.181)	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633 0.024 -0.427 (0.244)*	0.163 (0.031)*** 1468 43 0.193 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492 44 44 -0.173 (0.121)	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633 0.038 -0.180 (0.115)	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633 0.038 -0.174 (0.181)	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644 0.094 -0.065 (0.286) 1633 0.040 -0.417 (0.244)*	(0.031)** 146i 4: (0.026)** 135: 3: 128.00: (61.903)* 120: (0.195) 149: 4: -0.177 (0.121 163:
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs.	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633 0.021 -0.169 (0.115) 1633	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633 0.023 -0.181 (0.181) 1633	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633 0.024 -0.427 (0.244)* 1633	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492 44 -0.173 (0.121) 1633	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633 0.038 -0.180 (0.115) 1633	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633 0.038 -0.174 (0.181) 1633	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644 0.094 -0.065 (0.286) 1633 0.040 -0.417 (0.244)* 1633	(0.031)** 146i 4: (0.026)** 135: 3: 128.00: (61.903)* 120: (0.195) 149: 4: -0.177 (0.121 163:
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633 0.021 -0.169 (0.115) 1633 0.006	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633 0.023 -0.181 (0.181) 1633 0.006	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633 0.024 -0.427 (0.244)* 1633 0.009	0.163 (0.031)*** 1468 43 0.193 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492 44 -0.173 (0.121) 1633 50	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633 0.038 -0.180 (0.115) 1633 0.009	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633 0.038 -0.174 (0.181) 1633 0.009	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (33.066) 1644 0.094 -0.065 (0.286) 1633 0.040 -0.417 (0.244)* 1633 0.011	(0.031)** 146i 4: 0.18: (0.026)** 135: 3: 128.00: (61.903)* 120: (0.195 149: 4: -0.177 (0.121 163: 5:
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 ff lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633 0.021 -0.169 (0.115) 1633	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633 0.023 -0.181 (0.181) 1633	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633 0.024 -0.427 (0.244)* 1633	0.163 (0.031)*** 1468 43 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492 44 -0.173 (0.121) 1633	0.163 (0.024)*** 1644 0.397 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633 0.038 -0.180 (0.115) 1633	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633 0.038 -0.174 (0.181) 1633	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644 0.094 -0.065 (0.286) 1633 0.040 -0.417 (0.244)* 1633	(0.031)** 146i 4: 0.18: (0.026)** 135: 3: 128.00: (61.903)* 120: (0.195 149: 4: -0.177 (0.121 163: 5:
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction Treatment	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 if lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633 0.021 -0.169 (0.115) 1633 0.006 -0.097 (0.209)	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633 0.023 -0.181 (0.181) 1633 0.006 -0.241 (0.328)	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633 0.024 -0.427 (0.244)* 1633 0.009 -0.207 (0.442)	0.163 (0.031)*** 1468 43 0.193 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492 44 -0.173 (0.121) 1633 50 -0.181 (0.237)	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633 0.038 -0.180 (0.115) 1633 0.009 -0.146 (0.207)	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633 0.038 -0.174 (0.181) 1633 0.009 -0.208 (0.326)	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644 0.094 -0.065 (0.286) 1633 0.040 -0.417 (0.244)* 1633 0.011 -0.154 (0.440)	(0.031)** 146i 43 0.18i (0.026)** 1355 33 128.000 (61.903)* 1200 34 0.099 (0.195 1492 44 -0.177 (0.121 1633 50 -0.177 (0.236
Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth	(0.025)*** 1644 0.357 0.180 (0.019)*** 1644 0.448 if lines) 182.133 (44.431)*** 1644 0.079 0.050 (0.136) 1633 0.021 -0.169 (0.115) 1633 0.006 -0.097	0.174 (0.039)*** 1644 0.359 0.197 (0.030)*** 1644 0.450 112.093 (69.482) 1644 0.081 0.170 (0.214) 1633 0.023 -0.181 (0.181) 1633 0.026	0.153 (0.052)*** 1644 0.358 0.229 (0.040)*** 1644 0.454 149.891 (93.395) 1644 0.081 -0.023 (0.287) 1633 0.024 -0.427 (0.244)* 1633 0.009 -0.207	0.163 (0.031)*** 1468 43 0.193 (0.026)*** 1352 39 133.725 (62.082)** 1205 34 0.109 (0.197) 1492 44 -0.173 (0.121) 1633 50 -0.181	0.163 (0.024)*** 1644 0.397 0.187 (0.018)*** 1644 0.495 185.618 (44.020)*** 1644 0.091 0.059 (0.135) 1633 0.038 -0.180 (0.115) 1633 0.009 -0.146	0.162 (0.038)*** 1644 0.397 0.186 (0.029)*** 1644 0.495 100.619 (69.115) 1644 0.095 0.134 (0.212) 1633 0.038 -0.174 (0.181) 1633 0.009 -0.208	(0.051)*** 1644 0.397 0.215 (0.039)*** 1644 0.498 135.794 (93.066) 1644 0.094 -0.065 (0.286) 1633 0.040 -0.417 (0.244)* 1633 0.011 -0.154	(0.031)** 1468 43

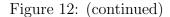
Table 7: LATE estimates of the impact of common language on imports from common language speaking bordering countries to Switzerland (using great-circle distance to the language border)

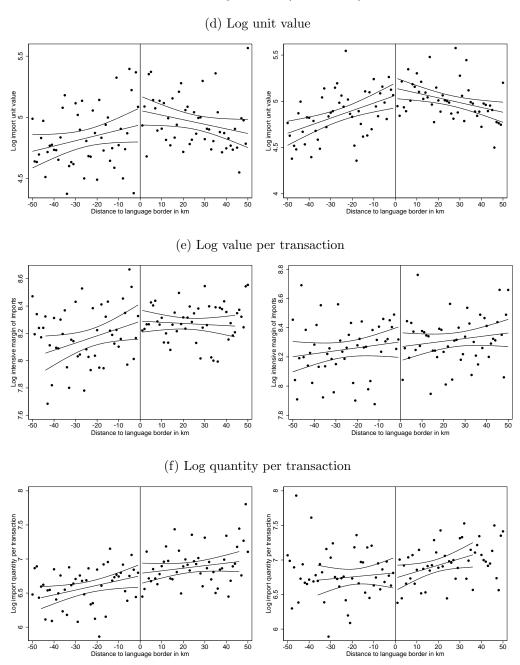
Common native language effect with parametric	1st order	Baseline reg 2nd order	3rd order	Nonparam.	1st order	uding distance to 2nd order	3rd order	Nonparam
polynomial or nonparametric					ge districts to left			
control function	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8
Value share								
Treatment	0.222	0.176	0.146	0.179	0.231	0.173	0.131	0.179
	(0.018)***	(0.029)***	(0.044)***	(0.026)***	(0.017)***	(0.029)***	(0.043)***	(0.026)***
Obs.	3414	3414	3414	2365	3414	3414	3414	2365
Cent. R-squ./Bandwidth	0.348	0.345	0.344	34	0.378	0.377	0.375	34
Transactions share								
Treatment	0.218	0.193	0.178	0.199	0.227	0.191	0.163	0.200
rieaunent	(0.014)***	(0.023)***	(0.034)***	(0.020)***	(0.013)***	(0.022)***	(0.033)***	(0.020)**
Obs.	3414	3414	3414	2518	3414	3414	3414	2518
Cent. R-squ./Bandwidth	0.435	0.432	0.431	36	0.475	0.474	0.472	36
·								
Number of products (HS8 tarif								
Treatment	173.506	132.149	129.602	144.696	168.979	123.868	118.001	141.657
	(35.337)***	(58.958)**	(88.878)	(40.634)***	(35.148)***	(58.744)**	(89.071)	(40.553)**
Obs.	3414	3414	3414	2819	3414	3414	3414	2819
Cent. R-squ./Bandwidth	0.074	0.075	0.075	40	0.078	0.079	0.079	40
Log unit value Treatment	0.137	0.105	-0.139	0.131	0.148	0.085	-0.194	0.138
oumon	(0.097)	(0.162)	(0.244)	(0.108)	(0.096)	(0.161)	(0.244)	(0.106
Obs.	3395	3395	3395	3395	3395	3395	3395	3395
Cent. R-squ./Bandwidth	0.007	0.007	0.005	50	0.020	0.020	0.020	50
·								
Log value per transaction								
Treatment	0.021	-0.055	-0.054	-0.018	-0.004	-0.060	-0.037	-0.030
	(0.082)	(0.137)	(0.206)	(0.094)	(0.081)	(0.136)	(0.206)	(0.094
Obs.	3395	3395	3395	3021	3395	3395	3395	3021
Cent. R-squ./Bandwidth	0.003	0.005	0.006	44	0.009	0.011	0.011	44
Log quantity per transaction								
Treatment	0.050	-0.065	-0.357	-0.006	-0.026	-0.085	-0.310	-0.050
Treatment	(0.147)	(0.246)	(0.370)	(0.159)	(0.146)	(0.244)	(0.369)	(0.157
Obs.	3395	3395		3177	3395	3395	3395	3177
000.								
Cent, R-squ./Bandwidth			3395 0.012					46
Cent. R-squ./Bandwidth	0.008	0.009	0.012	46	0.024	0.024	0.026	46
•		0.009	0.012	46		0.024		46
Value share	0.008	0.009 All	0.012 regions to left an	46 nd right of languag	0.024 ge border within th	0.024 le same canton	0.026	
•	0.008	0.009 All 0.140	0.012 regions to left an 0.114	46 nd right of languag 0.144	0.024 ge border within th 0.202	0.024 e same canton 0.126	0.026	0.136
Value share	0.008	0.009 All	0.012 regions to left an	46 nd right of languag	0.024 ge border within th	0.024 le same canton	0.026	0.136 (0.033)*** 1318
Value share Treatment	0.008 0.194 (0.023)***	0.009 All (0.038)***	0.012 regions to left an 0.114 (0.054)**	46 nd right of languag 0.144 (0.034)***	0.024 ge border within th 0.202 (0.023)***	0.024 e same canton 0.126 (0.037)***	0.026 0.096 (0.053)*	0.136 (0.033)***
Value share Treatment Obs.	0.008 0.194 (0.023)*** 1872	0.009 All (0.038)*** 1872	0.012 regions to left an 0.114 (0.054)** 1872	46 nd right of languag 0.144 (0.034)*** 1318	0.024 ge border within th 0.202 (0.023)*** 1872	0.024 e same canton 0.126 (0.037)*** 1872	0.026 0.096 (0.053)* 1872	0.136 (0.033)*** 1318
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share	0.008 0.194 (0.023)*** 1872 0.356	0.009 All (0.038)*** 1872 0.353	0.012 regions to left an 0.114 (0.054)** 1872 0.352	46 ad right of languag 0.144 (0.034)*** 1318 31	0.024 ge border within th 0.202 (0.023)*** 1872 0.389	0.024 e same canton 0.126 (0.037)*** 1872 0.388	0.026 0.096 (0.053)* 1872 0.387	0.136 (0.033)** 1318 31
Value share Treatment Obs. Cent. R-squ./Bandwidth	0.008 0.194 (0.023)*** 1872 0.356 0.202	0.009 All (0.038)*** 1872 0.353 0.169	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161	46 ad right of languag 0.144 (0.034)*** 1318 31 0.175	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157	0.026 0.096 (0.053)* 1872 0.387 0.145	0.136 (0.033)*** 1318 31 0.165
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)***	0.009 All (0.038)*** 1872 0.353 0.169 (0.029)***	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.352 0.161 (0.042)***	46 0.144 (0.034)*** 1318 31 0.175 (0.026)***	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)***	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)***	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)***	0.136 (0.033)*** 1318 31 0.165 (0.025)***
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs.	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872	0.009 All (0.038)*** 1872 0.353 0.169 (0.029)*** 1872	0.012 regions to left ar 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872	0.024 e same canton (0.037)*** 1872 0.388 0.157 (0.028)*** 1872	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872	0.136 (0.033)*** 1318 31 0.166 (0.025)** 1384
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)***	0.009 All (0.038)*** 1872 0.353 0.169 (0.029)***	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.352 0.161 (0.042)***	46 0.144 (0.034)*** 1318 31 0.175 (0.026)***	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)***	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)***	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)***	0.136 (0.033)*** 1318 31 0.166 (0.025)** 1384
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456	0.009 All (0.038)*** 1872 0.353 0.169 (0.029)*** 1872	0.012 regions to left ar 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872	0.024 e same canton (0.037)*** 1872 0.388 0.157 (0.028)*** 1872	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872	0.136 (0.033)*** 1318 31 0.166 (0.025)** 1384
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines)	0.009 All (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493	0.133 (0.033)** 1318 31 0.166 (0.025)** 1384 32
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246	46 dd right of languag 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 134.132	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998	0.136 (0.033)*** 31 0.166 (0.025)*** 1384 32 131.505
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines)	0.009 All (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493	0.136 (0.033)*** 1316 31 (0.025)*** 1384 32 131.500 (48.786)**
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarit Treatment	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)***	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)*	0.012 regions to left ar 0.114 (0.054)*** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)**	46 d right of language 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 134.132 (49.069)***	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)***	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)*	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)**	0.136 (0.033)** 1318 0.166 (0.025)** 1384 32 131.500 (48.786)**
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Treatment Obs. Cent. R-squ./Bandwidth	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872	46 d right of languag 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 134.132 (49.069)*** 1771	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872	0.136 (0.033)*** 1318 31 0.165
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.079	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)** 1872 0.455 221.246 (94.255)** 1872 0.081	46 10 dright of languag 0.144 (0.034)*** 1318 0.175 (0.026)*** 1384 32 134.132 (49.069)*** 1771 44	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092	0.136 (0.033)** 1318 31 0.166 (0.025)*** 1384 32 131.500 (48.786)*** 1771 44
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Treatment Obs. Cent. R-squ./Bandwidth	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 0.073	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.079 0.079	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.081 -0.160	46 dd right of languag 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 134.132 (49.066)*** 1771 44 0.096	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.099	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256	0.136 (0.033)*** 1318 31 0.166 (0.025)** 1384 32 131.506 (48.786)*** 177* 44
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 0.073 (0.128)	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205)	0.012 regions to left ar 0.114 (0.054)*** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295)	46 dd right of languag 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 (49.069)*** 1771 44 0.096 (0.174)	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.026)	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.099 (0.203)	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292)	0.136 (0.033)** 1311 3 0.166 (0.025)** 138 32 (0.025)** 138- 32 (48.786)** (48.786)** 177- 44 0.086 (0.171
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs.	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.073 (0.128) 1858	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 0.454 127.849 (65.539)* 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858	46 10 dright of languag 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 (49.069)*** 1771 44 0.096 (0.174) 1743	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.126) 1858	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.099 (0.203) 1858	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858	0.136 (0.033)** 1318 31 0.166 (0.025)** 1384 32 131.506 (48.786)** 44 0.086 (0.171 1743
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 0.073 (0.128)	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205)	0.012 regions to left ar 0.114 (0.054)*** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295)	46 dd right of languag 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 (49.069)*** 1771 44 0.096 (0.174)	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.026)	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.099 (0.203)	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292)	0.134 (0.033)** 1314 3* 0.166 (0.025)** 1384 3* 131.500 (48.786)** 44 0.088 (0.171 174*
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.073 (0.128) 1858	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 0.454 127.849 (65.539)* 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858	46 10 dright of languag 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 (49.069)*** 1771 44 0.096 (0.174) 1743	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.126) 1858	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.099 (0.203) 1858	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858	0.134 (0.033)** 1314 3* 0.166 (0.025)** 1384 3* 131.500 (48.786)** 44 0.088 (0.171 174*
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 (0.073 (0.128) 1858 0.015	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858 0.019	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858 0.020	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 (49.069)*** 1384 44 0.096 (0.174) 1743 43	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.126) 1858 0.036	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.099 0.0099 (0.203) 1858 0.041	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858 0.042	0.134 (0.03)** 1314 3* 0.166 (0.025)** 1384 3* 131.500 (48.786)** (48.786)** 177* 4* 0.088 (0.171 174*
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 (0.128) 1858 0.015 -0.111	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858 0.019 -0.182	0.012 regions to left ar 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858 0.020 -0.294	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 134.132 (49.069)*** 1771 44 0.096 (0.174) 1743 43 -0.149	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.126) 1858 0.036 -0.120	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.091 0.099 (0.203) 1858 0.041 -0.171	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858 0.042 -0.279	0.136 (0.033)** 1311 3 0.166 (0.025)** 138- 33 31500 (48.786)** 1777 4/ 0.086 (0.171 174; 4; 4; 0.084
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 0.073 (0.128) 1858 0.015 -0.111 (0.110)	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858 0.019 -0.182 (0.177)	0.012 regions to left ar 0.114 (0.054)*** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858 0.020 -0.294 (0.254)	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 (49.069)*** 1384 44 0.096 (0.174) 1743 43	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.126) 1858 0.036 -0.120 (0.110)	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.091 0.099 (0.203) 1858 0.041 -0.171 (0.177)	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858 0.042 -0.279 (0.255)	0.134 (0.033)** 1314 3 0.164 (0.025)** 138- 33 (48.786)** (48.786)** 1777 44 0.086 (0.171 1743 43 0.084 (0.171
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarit Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 (0.128) 1858 0.015 -0.111	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858 0.019 -0.182	0.012 regions to left ar 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858 0.020 -0.294	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 (49.069)*** 1771 44 0.096 (0.174) 1743 43 -0.149 (0.117)	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.126) 1858 0.036 -0.120	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.091 0.099 (0.203) 1858 0.041 -0.171	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858 0.042 -0.279	0.134 (0.03)** 1314 3' 0.166 (0.025)** 1384 3' (48.786)** (48.786)** (48.786)** (48.786)** (48.786)** (0.171 177' 4' 0.088 (0.171 174' 4' 0.0147 (0.117 177'
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs.	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 (0.073 (0.128) 1858 0.015 -0.111 (0.110) 1858	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858 0.019 -0.182 (0.177) 1858	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858 0.020 -0.294 (0.254) 1858	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 (49.066)*** 1771 1771 44 0.096 (0.174) 1773 43 -0.149 (0.117) 1779	0.024 ge border within th 0.202 (0.023)**** 1872 0.389 0.209 (0.017)**** 1872 0.493 148.622 (40.434)**** 1872 0.089 0.092 (0.126) 1858 0.036 -0.120 (0.110) 1858	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.099 0.0099 (0.203) 1858 0.041 -0.1771 1858	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858 0.042 -0.279 (0.255) 1858	0.134 (0.03)** 1314 3' 0.166 (0.025)** 1384 3' (48.786)** (48.786)** (48.786)** (48.786)** (48.786)** (0.171 177' 4' 0.088 (0.171 174' 4' 0.0147 (0.117 177'
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 (0.128) 1858 0.015 -0.111 (0.110) 1858 0.008	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858 0.019 -0.182 (0.177) 1858 0.008	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858 0.020 -0.294 (0.254) 1858 0.009	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 134.132 (49.069)*** 1771 44 0.096 (0.174) 1743 43 -0.149 (0.117) 1779 45	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.126) 1858 0.036 -0.120 (0.110) 1858 0.010	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.099 (0.203) 1858 0.041 -0.1771 1858 0.010	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858 0.042 -0.279 (0.255) 1858 0.011	0.134 (0.033)** 1311 3 0.166 (0.025)** 138- 32 (0.025)** 138- 32 (0.025)** 138- (0.025)** (48.786)** (48.786)** (0.171 1774 43 -0.149 (0.117 1777 43
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarit Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 (0.128) 1858 0.015 -0.111 (0.110) 1858 0.008	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858 0.019 -0.182 (0.177) 1858 0.008	0.012 regions to left ar 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858 0.020 -0.294 (0.254) 1858 0.020 -0.294 (0.254) 1858 0.009 -0.314	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 134.132 (49.069)*** 1771 44 0.096 (0.174) 1743 43 -0.149 (0.117) 1779 45 -0.249	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.126) 1858 0.036 -0.120 (0.110) 1858 0.010	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.091 0.099 (0.203) 1858 0.041 -0.171 (0.177) 1858 0.010 -0.279	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858 0.042 -0.279 (0.255) 1858 0.041 -0.256	0.136 (0.033)** 1311 3' 0.166 (0.025)** 1384 3' 131.500 (48.786)** 1777 4' (48.786)** 1777 4' 0.088 (0.171 1743 4' 0.0145 (0.117 1777 4' 4' 0.0145 (0.117 1777 4' 4' 0.0145 (0.117 1777 4' 0.025)
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarit Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.073 (0.128) 1858 0.015 -0.1111 (0.110) 1858 0.008 -0.058 (0.201)	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 0.454 127.849 (65.539)* 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858 0.019 -0.182 (0.177) 1858 0.008 -0.322 (0.323)	0.012 regions to left an 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858 0.020 -0.294 (0.254) 1858 0.009 -0.314 (0.465)	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 (49.069)*** 1384 1384 32 (49.069)*** 1384 0.1771 1771 44 0.096 (0.174) 1773 43 -0.149 (0.117) 1779 45 -0.249 (0.237)	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.126) 1858 0.036 -0.120 (0.110) 1858 0.010 -0.199	0.024 ie same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.099 (0.203) 1858 0.041 -0.1711 (0.177) 1858 0.010 -0.279 (0.322)	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858 0.042 -0.279 (0.255) 1858 0.011 -0.256 (0.463)	0.136 (0.033)*** 1318 31 0.166 (0.025)*** 138 32 131.506 (48.786)*** 1777 44 0.086 (0.171 1745 45 (0.117 1775 45 -0.234 (0.236
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction	0.008 0.194 (0.023)*** 1872 0.356 0.202 (0.018)*** 1872 0.456 ff lines) 143.079 (40.761)*** 1872 0.079 (0.128) 1858 0.015 -0.111 (0.110) 1858 0.008	0.009 All 0.140 (0.038)*** 1872 0.353 0.169 (0.029)*** 1872 0.454 127.849 (65.539)* 1872 0.079 0.162 (0.205) 1858 0.019 -0.182 (0.177) 1858 0.008	0.012 regions to left ar 0.114 (0.054)** 1872 0.352 0.161 (0.042)*** 1872 0.455 221.246 (94.255)** 1872 0.081 -0.160 (0.295) 1858 0.020 -0.294 (0.254) 1858 0.020 -0.294 (0.254) 1858 0.009 -0.314	46 0.144 (0.034)*** 1318 31 0.175 (0.026)*** 1384 32 134.132 (49.069)*** 1771 44 0.096 (0.174) 1743 43 -0.149 (0.117) 1779 45 -0.249	0.024 ge border within th 0.202 (0.023)*** 1872 0.389 0.209 (0.017)*** 1872 0.493 148.622 (40.434)*** 1872 0.089 0.092 (0.126) 1858 0.036 -0.120 (0.110) 1858 0.010	0.024 e same canton 0.126 (0.037)*** 1872 0.388 0.157 (0.028)*** 1872 0.492 114.623 (65.309)* 1872 0.091 0.091 0.099 (0.203) 1858 0.041 -0.171 (0.177) 1858 0.010 -0.279	0.026 0.096 (0.053)* 1872 0.387 0.145 (0.040)*** 1872 0.493 202.998 (93.940)** 1872 0.092 -0.256 (0.292) 1858 0.042 -0.279 (0.255) 1858 0.041 -0.256	0.136 (0.033)** 1311 3' 0.166 (0.025)** 1384 3' 131.500 (48.786)** 1777 4' (48.786)** 1777 4' 0.088 (0.171 1743 4' 0.0145 (0.117 1777 4' 4' 0.0145 (0.117 1777 4' 4' 0.0145 (0.117 1777 4' 0.025)

Figure 12: Outcomes by great circle (left) and road distance (right) to language border



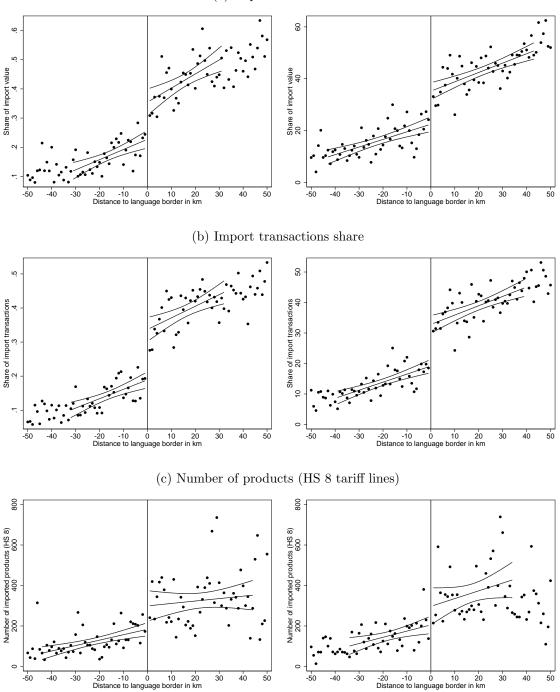
(a) Import value share





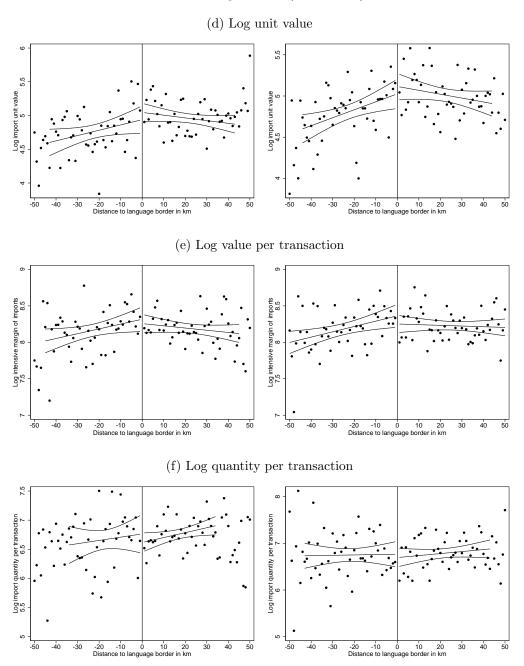
Notes: Treated observations (common language) to the right side of the language border (positive distance) and control observations (non-common language) to the left side of the language border (negative distance) in all figures. Linear predictions and 95% confidence intervals for average outcomes represented by scatter points are displayed for one optimal bandwidth (which is estimated from all observations).

Figure 13: Outcomes by great circle (left) and road distance (right) to language border in cantons through which internal language borders run



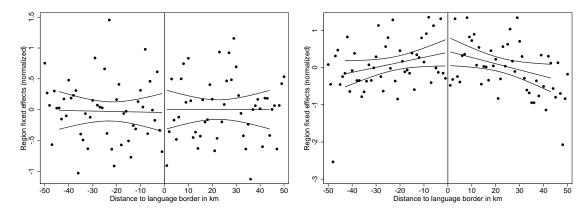
(a) Import value share

Figure 13: (continued)



Notes: Treated observations (common language) to the right side of the language border (positive distance) and control observations (non-common language) to the left side of the language border (negative distance) in all figures. Linear predictions and 95% confidence intervals for average outcomes represented by scatter points are displayed for one optimal bandwidth (which is estimated from all observations).

Figure 14: Average Swiss zip code fixed effects from naïve gravity regressions



Notes: Fixed effects averaged over road distance bins within 50 km from the language border from gravity regressions including fixed zip code and country of origin effects, log bilateral distance and common language. Full sample on the left-hand side (1,483 zip codes and 4 countries of origin) and sample from cantons through which internal language borders run on the right-hand side (821 zip codes and 4 countries of origin). Treated observations (common language) to the right side of the language border (positive distance) and control observations (non-common language) to the left side of the language border (negative distance) in all figures. Linear predictions and 95% confidence intervals for average outcomes represented by scatter points are displayed for one optimal bandwidth (which is estimated from all observations as in Table 6).

on native Baseline regression ge effect with Opt. bandwidth	Fixed b	andwidth		Inc Opt. bandwidth	Juding distance	to external borde Fixed bandwidth	
				districts to left ar	nd right of langu		
in (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
share	0.068	0 1 2 2	0.165	0.196	0.077	0.124	0.170
		0.133 0.042)***	0.165 (0.032)***	0.186 (0.025)***	(0.062)	0.134 (0.042)***	0.170 (0.032)***
s. 2623	533	1103	1762	2623	(0.002)	(0.042)	(0.002)
dwidth 44	10	20	30	44	10	20	30
actions share							
	0.171	0.186	0.192	0.202	0.176	0.188	0.196
		0.034)***	(0.026)***	(0.022)***	(0.051)***	(0.034)***	(0.026)***
3. 2355	533	1103	1762	2355	533	1103	1762
dwidth 40	10	20	30	40	10	20	30
er of products (HS8 tariff lines)							
	3.788	133.578	106.610	107.576	111.670	136.401	112.011
. ,	,	(68.526)*	(54.890)*	(52.893)**	(81.246)	(67.260)**	(53.884)**
s. 1836	533	1103	1762	1836	533	1103	1762
idwidth 31	10	20	30	31	10	20	30
nit value							
	0.303	-0.202	0.017	0.089	-0.265	-0.194	0.035
	.405)	(0.263)	(0.198)	(0.124)	(0.406)	(0.263)	(0.199)
s. 2954 Idwidth 50	533 10	1103 20	1762 30	2954 50	533 10	1103 20	1762 30
dwidth 50	10	20	30	50	10	20	30
alue per transaction							
	0.400	-0.217	-0.109	-0.068	-0.381	-0.214	-0.108
	.271)	(0.180)	(0.138)	(0.092)	(0.266)	(0.180)	(0.138)
s. 2954 Idwidth 50	533 10	1103 20	1762 30	2954 50	533 10	1103 20	1762 30
idwidth 50	10	20	30	50	10	20	30
uantity per transaction							
atment -0.177 -	2 407			0.400	-0.431	-0.159	-0.192
	0.407	-0.159	-0.188	-0.183		0.100	
(0.210) (0	.471)	(0.310)	(0.237)	(0.210)	(0.466)	(0.308)	(0.236)
(0.210) (0 5. 2163	.471) 533	(0.310) 1103	(0.237) 1762	(0.210) 2163	(0.466) 533	(0.308) 1103	(0.236) 1762
(0.210) (0	.471) 533 10	(0.310) 1103 20	(0.237) 1762 30	(0.210) 2163 36	(0.466) 533 10	(0.308) 1103 20	(0.236)
(0.210) (0 s. 2163 dwidth 36	.471) 533 10	(0.310) 1103 20	(0.237) 1762 30	(0.210) 2163	(0.466) 533 10	(0.308) 1103 20	(0.236) 1762
(0.210) (0 s. 2163 ddwidth 36	.471) 533 10	(0.310) 1103 20	(0.237) 1762 30	(0.210) 2163 36	(0.466) 533 10	(0.308) 1103 20	(0.236) 1762
(0.210) (0 s. 2163 sdwidth 36 share atment 0.163	.471) 533 10 All regio	(0.310) 1103 20 ns to left and ri	(0.237) 1762 30 ght of langua	(0.210) 2163 36 ge border within t	(0.466) 533 10 the same cantor 0.062 (0.071)	(0.308) 1103 20	(0.236) 1762 30
(0.210) (0 s. 2163 idwidth 36 share atment 0.163 (0.031)*** (0 s. 1468	.471) 533 10 All regio 0.059 .071) (377	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706	(0.237) 1762 30 ght of langua 0.161 (0.038)*** 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468	(0.466) 533 10 the same cantor 0.062 (0.071) 377	(0.308) 1103 20 0.135 (0.049)*** 706	(0.236) 1762 30 0.154 (0.038)*** 1061
(0.210) (0 s. 2163 ddwidth 36 share atment 0.163 (0 .031)*** (0	.471) 533 10 All regio 0.059 .071) ((0.310) 1103 20 ns to left and ri 0.144 0.049)***	(0.237) 1762 30 ght of langua 0.161 (0.038)***	(0.210) 2163 36 ge border within t 0.160 (0.031)***	(0.466) 533 10 the same cantor 0.062 (0.071)	(0.308) 1103 20 0.135 (0.049)***	(0.236) 1762 30 0.154 (0.038)***
(0.210) (0 s. 2163 idwidth 36 share atment 0.163 (0 (0.031)*** (0 s. 1468 idwidth 43	.471) 533 10 All regio 0.059 .071) (377	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706	(0.237) 1762 30 ght of langua 0.161 (0.038)*** 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468	(0.466) 533 10 the same cantor 0.062 (0.071) 377	(0.308) 1103 20 0.135 (0.049)*** 706	(0.236) 1762 30 0.154 (0.038)*** 1061
(0.210) (0 . 2163 . 2163 	.471) 533 10 All regio 0.059 .071) (377	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706	(0.237) 1762 30 ght of langua 0.161 (0.038)*** 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468	(0.466) 533 10 the same cantor 0.062 (0.071) 377	(0.308) 1103 20 0.135 (0.049)*** 706	(0.236) 1762 30 0.154 (0.038)*** 1061
(0.210) (0 s. 2163 idwidth 36 share atment 0.163 (0 s. 1468 idwidth 43 actions share atment 0.193 (0 s. 0.193 (0 (0.026)*** (0.05)	.471) 533 10 All regio 0.059 0.071) (377 10 0.168 57)*** ((0.310) 1103 20 ns to left and ri 0.144 0.049)*** 20 0.211 0.039)***	(0.237) 1762 30 ght of languas (0.038)*** 1061 30 0.200 (0.030)***	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)***	(0.466) 533 10 0.062 (0.071) 377 10 0.169 (0.057)***	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)***	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)***
(0.210) (0 . 2163 . 2163 	.471) 533 10 All regio 0.059 .071) (377 10 0.168 57)*** (377	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061	(0.210) 2163 36 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352	(0.466) 533 10 hhe same cantor (0.071) 377 10 0.169 (0.057)*** 377	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061
(0.210) (0 s. 2163 idwidth 36 share atment 0.163 (0 s. 1468 idwidth 43 actions share atment 0.193 (0 s. 0.193 (0 (0.026)*** (0.05)	.471) 533 10 All regio 0.059 0.071) (377 10 0.168 57)*** ((0.310) 1103 20 ns to left and ri 0.144 0.049)*** 20 0.211 0.039)***	(0.237) 1762 30 ght of languas (0.038)*** 1061 30 0.200 (0.030)***	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)***	(0.466) 533 10 0.062 (0.071) 377 10 0.169 (0.057)***	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)***	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)***
(0.210) (0 s. 2163 idwidth 36 share	.471) 533 10 All regio 0.059 .071) (377 10 0.168 57)*** (377	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061	(0.210) 2163 36 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352	(0.466) 533 10 hhe same cantor (0.071) 377 10 0.169 (0.057)*** 377	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061
(0.210) (0 s. 2163 idwidth 36 share	.471) 533 10 All regio 0.059 .071) (377 10 0.168 57)*** (377	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002	(0.466) 533 10 0.062 (0.071) 377 10 0.169 (0.057)*** 10 377 10	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061
(0.210) (0 35. 2163 idwidth 36 share	.471) 533 10 All regio 0.059 .071) (377 10 0.168 .57)*** (377 10 .547)	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)*	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)**	(0.210) 2163 36 ge border within 1 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)**	(0.466) 533 <u>10</u> 0.062 (0.071) 377 10 0.169 (0.057)*** 377 10 101.550 (97.013)	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)*	(0.236) 1762 300 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)**
(0.210) (0 . 2163 . 2163 	.471) 533 10 All regio 0.059 .071) (377 10 0.168 .57)*** (377 10 .5.941 .547)	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205	(0.466) 533 10 ihe same cantor (0.071) 377 10 (0.057)*** 377 10 101.550 (97.013) 377	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)** 1061
(0.210) (0 35. 2163 idwidth 36 share	.471) 533 10 All regio 0.059 .071) (377 10 0.168 .57)*** (377 10 .547)	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)*	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)**	(0.210) 2163 36 ge border within 1 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)**	(0.466) 533 <u>10</u> 0.062 (0.071) 377 10 0.169 (0.057)*** 377 10 101.550 (97.013)	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)*	(0.236) 1762 300 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)**
(0.210) (0 . 2163 . 2163 	.471) 533 10 All regio 0.059 .071) (377 10 0.168 .57)*** (377 10 .5.941 .547)	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205	(0.466) 533 10 ihe same cantor (0.071) 377 10 (0.057)*** 377 10 101.550 (97.013) 377	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)** 1061
(0.210) (0 36 2163 share 36 atment 0.163 (0.031)*** (0 3. 1468 idwidth 43 actions share 0.193 attment 0.193 (0.026)*** (0.06 3. 1352 idwidth 39 er of products (HS8 tariff lines) atment atment 133.725 99 s. 1205 idwidth 34 nit value 1205	.471) 533 10 All regio 0.059 .071) (377 10 0.168 57)*** (377 10 5.941 .547) (377 10 0.270	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099	(0.466) 533 10 0.062 (0.071) 377 10 0.169 (0.057)*** 10 101.550 (97.013) 377 10 -0.256	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)** 1061
(0.210) (0 35. 2163 share 36 atment 0.163 (0.031)*** (0 36. 1468 adwidth 43 actions share 1468 atment 0.193 (0.026)*** (0.05 adwidth 43 actions share 0.193 atment 0.193 (0.026)*** (0.05 adwidth 39 er of products (HS8 tariff lines) 133.725 atment 133.725 99 s. 1205 idwidth 34 nit value 0.109 atment 0.109	.471) 533 10 All regio 0.059 .071) (377 10 0.168 .57)*** (377 10 0.5941 .547) 377 10 0.547) .547) 0.5270 .468)	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315)	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061 30 0.208 (0.245)	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195)	(0.466) 533 10 0.062 (0.071) 377 10 0.169 (0.057)*** 0.169 (0.057)*** 10 101.550 (97.013) 377 10 -0.256 (0.464)	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 -0.107 (0.314)	(0.236) 1762 300 0.154 (0.038)*** 1061 300 134.363 (66.334)** 1061 30 0.066 (0.243)
(0.210) (0 share 2163 share (0.031)*** atment 0.163 (0.031)*** (0 s. 1468 idwidth 43 actions share (0.026)*** attment 0.193 (0.026)*** (0.025)*** (0.026)*** (0.025)*** (0.026)*** (0.025)*** (0.026)*** (0.025)*** (0.026)*** (0.025)*** (0.026)*** (0.025)*** (0.026)*** (0.025)*** (0.026)*** (0.025)*** (0.026)*** (0.025)*** (0.026)*** (0.025)*** (0.026)*** (0.025)*** (0.1025)*** (99) (3. 1205 (adwidth 34 nit value 0.109 atment 0.109 (0.197) (0 (0.197) (0	.471) 533 10 All regio 0.059 0.071) (377 10 0.168 5.77*** (377 10 5.941 .547) (377 10 0.270 .468) 377	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315) 706	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)*** 1061 30 0.088 (0.245) 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195) 1492	(0.466) 533 10 .0.62 (0.071) 377 10 (0.057)*** (0.057)*** 10 101.550 (97.013) 377 10 -0.256 (0.464) 377	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 148.899 (82.949)* 706 20	(0.236) 1762 30 0.154 (0.38)*** 1061 30 0.195 (0.30)*** 1061 30 134.363 (66.334)** 1061 30 0.066 (0.243) 1061
(0.210) (0 35. 2163 share 36 atment 0.163 (0.031)*** (0 36. 1468 adwidth 43 actions share 1468 atment 0.193 (0.026)*** (0.05 adwidth 43 actions share 0.193 atment 0.193 (0.026)*** (0.05 adwidth 39 er of products (HS8 tariff lines) 133.725 atment 133.725 (62.082)** (99 s. 1205 idwidth 34 nit value 0.109 atment 0.109	.471) 533 10 All regio 0.059 .071) (377 10 0.168 .57)*** (377 10 0.5941 .547) 377 10 0.547) .547) 0.5270 .468)	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315)	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061 30 0.208 (0.245)	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195)	(0.466) 533 10 0.062 (0.071) 377 10 0.169 (0.057)*** 0.169 (0.057)*** 10 101.550 (97.013) 377 10 -0.256 (0.464)	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 -0.107 (0.314)	(0.236) 1762 300 0.154 (0.038)*** 1061 300 134.363 (66.334)** 1061 30 0.066 (0.243)
(0.210) (0 share 2163 share (0.031)*** atment 0.163 (0.031)*** (0 s. 1468 idwidth 43 actions share (0.026)*** attment 0.193 (0.026)*** (0.025)*** (0.026)*** (0.025)*** (dwidth 39 er of products (HS8 tariff lines) atment 133.725 idwidth 34 nit value 1205 idwidth 34 nit value 0.109 atment 0.109 atment 0.109	.471) 533 10 All regio 0.059 0.071) (377 10 0.168 5.77*** (377 10 5.941 .547) (377 10 0.270 .468) 377	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315) 706	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)*** 1061 30 0.088 (0.245) 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195) 1492	(0.466) 533 10 .0.62 (0.071) 377 10 (0.057)*** (0.057)*** 10 101.550 (97.013) 377 10 -0.256 (0.464) 377	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 148.899 (82.949)* 706 20 -0.107 (0.314) 706	(0.236) 1762 30 0.154 (0.38)*** 1061 30 0.195 (0.30)*** 1061 30 134.363 (66.334)** 1061 30 0.066 (0.243) 1061
(0.210) (0 36 2163 idwidth 36 share	.471) 533 10 All regio 0.059 .071) (377 10 0.168 57)*** (377 10 0.5941 5.941 10 0.270 0.270 0.270 10 0.270	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315) 706 20 -0.073 (0.315) 706 20 -0.360	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061 30 0.088 (0.245) 1061 30 -0.247	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195) 1492 44 -0.177	(0.466) 533 10 0.062 (0.071) 377 10 0.169 (0.057)*** 10 101.550 (97.013) 377 10 -0.256 (0.464) 377 10	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 148.899 (82.949)* 706 20 -0.107 (0.314) 706 20 -0.107 (0.314) 706 20 -0.356	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)** 1061 30 0.066 ((0.243) 1061 30 -0.241
(0.210) (0 36 2163 share 36 atment 0.163 (0.031)*** (0 3. 1468 adwidth 43 actions share (0.025)*** atment 0.193 (0.025)*** (0.04) 36 (0.025)*** adwidth 43 actions share (0.025)*** atment 1352 adwidth 39 er of products (HS8 tariff lines) atment 133.725 (62.082)** (99 3. 1205 atment 0.109 atment 0.109 . 1492 idwidth 44 atment -0.173 atment -0.173	.471) 533 10 .0.059 .0.071) (377 10 0.168 .57)*** (377 10 .5.941 .547) 377 10 0.270 .468) 377 10 0.270 .468) 377 10 0.533 313)*	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315) 706 20 -0.073 (0.315) 706 20 -0.360 (0.212)*	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061 30 0.088 (0.245) 1061 30 -0.247 (0.165)	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195) 1492 44 -0.177 (0.121)	(0.466) 533 10 	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 148.899 (82.949)* 706 20 -0.107 (0.314) 706 20 -0.356 (0.214)*	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)** 1061 30 0.066 (0.243) 1061 30 0.066 (0.244) 1061 30 0.066 (0.244) 1061 30 0.066 (0.244) 1061 30 0.066 (0.244) 1061 1061 1061 (0.166) (0.
(0.210) (0 share 2163 share (0.026)*** atment 0.163 (0.031)*** (0 s. 1468 idwidth 43 actions share (0.026)*** attment 0.193 (0.026)*** (0.02 idwidth 39 er of products (HS8 tariff lines) atment atment 133.725 idwidth 34 nit value 1205 idwidth 34 nit value 1492 atdwidth 44 ablue per transaction 1492 atment -0.173 . 1492 idwidth 44	.471) 533 10 .0.59 .0.71) (377 10 .168 .77)*** (377 10 	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315) 706 20 -0.073 (0.315) 706 20 -0.360 (0.212)* 706	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)*** 1061 30 0.088 (0.245) 1061 30 -0.247 (0.165) 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195) 1492 44 -0.177 (0.121) 1633	(0.466) 533 10 .0.62 (0.071) 377 10 0.169 (0.057)*** 377 10 101.550 (97.013) 377 10 -0.256 (0.464) 377 10 -0.529 (0.311)*	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 148.899 (82.949)* 706 20 -0.107 (0.314) 706 20 -0.356 (0.214)* 706	(0.236) 1762 30 0.154 (0.38)*** 1061 30 0.195 (0.33)*** 1061 30 134.363 (66.334)** 1061 30 0.066 (0.243) 1061 30 -0.241 1061 30 -0.241 1061 30 -0.241 1061 30 -0.241 1061
(0.210) (0 36 2163 share 36 atment 0.163 (0.031)*** (0 3. 1468 adwidth 43 actions share (0.025)*** atment 0.193 (0.025)*** (0.04) 36 (0.025)*** adwidth 43 actions share (0.025)*** atment 1352 adwidth 39 er of products (HS8 tariff lines) atment 133.725 (62.082)** (99 3. 1205 atment 0.109 atment 0.109 . 1492 idwidth 44 atment -0.173 atment -0.173	.471) 533 10 .0.059 .0.071) (377 10 0.168 .57)*** (377 10 .5.941 .547) 377 10 0.270 .468) 377 10 0.270 .468) 377 10 0.533 313)*	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315) 706 20 -0.073 (0.315) 706 20 -0.360 (0.212)*	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061 30 0.088 (0.245) 1061 30 -0.247 (0.165)	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195) 1492 44 -0.177 (0.121)	(0.466) 533 10 	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 148.899 (82.949)* 706 20 -0.107 (0.314) 706 20 -0.356 (0.214)*	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)** 1061 30 0.066 (0.243) 1061 30 0.066 (0.244) 1061 30 0.066 (0.244) 1061 30 0.066 (0.244) 1061 30 0.066 (0.244) 1061 1061 1061 (0.166) (0.
(0.210) (0 share 2163 share (0.026)*** atment 0.163 (0.031)*** (0 s. 1468 idwidth 43 actions share (0.026)*** attment 0.193 (0.026)*** (0.02 idwidth 39 er of products (HS8 tariff lines) atment atment 133.725 idwidth 34 nit value 1205 idwidth 34 nit value 1492 atdwidth 44 ablue per transaction 1492 atment -0.173 . 1492 idwidth 44	.471) 533 10 .0.59 .0.71) (377 10 .168 .77)*** (377 10 	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315) 706 20 -0.073 (0.315) 706 20 -0.360 (0.212)* 706	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)*** 1061 30 0.088 (0.245) 1061 30 -0.247 (0.165) 1061	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195) 1492 44 -0.177 (0.121) 1633	(0.466) 533 10 .0.62 (0.071) 377 10 0.169 (0.057)*** 377 10 101.550 (97.013) 377 10 -0.256 (0.464) 377 10 -0.529 (0.311)*	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 148.899 (82.949)* 706 20 -0.107 (0.314) 706 20 -0.356 (0.214)* 706	(0.236) 1762 30 0.154 (0.38)*** 1061 30 0.195 (0.33)*** 1061 30 134.363 (66.334)** 1061 30 0.066 (0.243) 1061 30 -0.241 1061 30 -0.241 1061 30 -0.241 1061 30 -0.241 1061
(0.210) (0 share 2163 share	.471) 533 10 All regio 0.059 .071) (377 10 0.168 57)*** (377 10 0.541 0.547) (377 10 0.270 0.468) 377 10 0.533 313)* 377 10 0.533 313)* 377 10 0.5336	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315) 706 20 -0.073 (0.315) 706 20 -0.360 (0.212)* 706 20 -0.360 (0.212)* 706 20 -0.360 (0.212)* 706 20 -0.360 (0.212)* 706 20 -0.360 (0.217)* 706 20 -0.777	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061 30 0.288 (0.245) 1061 30 0.088 (0.245) 1061 30 -0.247 (0.165) -0.247 (0.165) -0.169	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195) 1492 44 -0.177 (0.121) 1633 50 -0.173	(0.466) 533 10 0.062 (0.071) 377 10 0.169 (0.057)*** 10 101.550 (97.013) 377 10 -0.256 (0.464) 377 10 -0.529 (0.311)* 377 10	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 148.899 (82.949)* 706 20 -0.107 (0.314) 706 20 -0.356 (0.214)* 706 20 -0.356 (0.214)* 706 20 -0.315 (0.214)* 706 20 -0.356 (0.214) 706 20 -0.357 (0.317) 706 20 -0.356 (0.214) 706 20 -0.357 (0.317) 706 20 -0.356 (0.214) 706 20 -0.357 (0.314) 706 20 -0.356 (0.214) 706 20 -0.357 (0.314) 706 20 -0.357 (0.314) 706 20 -0.357 (0.314) 706 20 -0.357 (0.314) (0.315) (0	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)** 1061 30 0.0666 (0.243) 1061 30 -0.241 (0.166) 1061 30 -0.241 (0.166) 1061 30 -0.241 (0.166) 1061 30 -0.136
(0.210) (0 36 2163 share 36 atment 0.163 (0.031)*** (0 3. 1468 adwidth 43 actions share 1468 atment 0.193 (0.026)*** (0.00 3. 1352 adwidth 39 er of products (HS8 tariff lines) atment atment 133.725 adwidth 34 atment 133.725 atment 133.725 atment 134.725 (62.082)** (99 s. 1205 adwidth 34 nit value atment atment 0.109 . 1492 adwidth 44 alue per transaction atment . 1633 . 1633 . 1633 . 1633 . 1633	.471) 533 10 .0.059 .0.071) (377 10 .0.168 .57)*** (377 10 .0.168 .57)*** (377 10 .5.941 .547) .547) .547) .548) 377 10 .548) .547 10 .548) .548) 	(0.310) 1103 20 ns to left and ri 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315) 706 20 -0.073 (0.315) 706 20 -0.360 (0.212)* 706 20 -0.360 (0.212)* 706 20	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061 30 0.088 (0.245) 1061 30 -0.247 (0.165) 1061 30 -0.247 (0.165) 1061 30	(0.210) 2163 36 ge border within 1 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195) 1492 44 -0.177 (0.121) 1633 50 -0.173 (0.236)	(0.466) 533 10 	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 148.899 (82.949)* 706 20 -0.107 (0.314) 706 20 -0.356 (0.214)* 706 20 -0.356 (0.214)* 706 20 -0.356 (0.214)* 706 20 -0.357 (0.372)	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)** 1061 30 0.066 (0.243) 1061 30 -0.241 (0.166) 1061 30 -0.241 (0.166) 1061 (0.287)
(0.210) (0 share 2163 share	.471) 533 10 All regio 0.059 .071) (377 10 0.168 57)*** (377 10 0.541 0.547) (377 10 0.270 0.468) 377 10 0.533 313)* 377 10 0.533 313)* 377 10 0.5336	(0.310) 1103 20 ns to left and ri 0.144 0.049)*** 706 20 0.211 0.039)*** 706 20 159.228 (82.497)* 706 20 -0.073 (0.315) 706 20 -0.073 (0.315) 706 20 -0.360 (0.212)* 706 20 -0.360 (0.212)* 706 20 -0.360 (0.212)* 706 20 -0.360 (0.212)* 706 20 -0.360 (0.217)* 706 20 -0.777	(0.237) 1762 30 ght of languar 0.161 (0.038)*** 1061 30 0.200 (0.030)*** 1061 30 141.695 (66.451)** 1061 30 0.288 (0.245) 1061 30 0.088 (0.245) 1061 30 -0.247 (0.165) -0.247 (0.165) -0.169	(0.210) 2163 36 ge border within t 0.160 (0.031)*** 1468 43 0.189 (0.026)*** 1352 39 128.002 (61.903)** 1205 34 0.099 (0.195) 1492 44 -0.177 (0.121) 1633 50 -0.173	(0.466) 533 10 0.062 (0.071) 377 10 0.169 (0.057)*** 10 101.550 (97.013) 377 10 -0.256 (0.464) 377 10 -0.529 (0.311)* 377 10	(0.308) 1103 20 0.135 (0.049)*** 706 20 0.204 (0.039)*** 706 20 148.899 (82.949)* 706 20 148.899 (82.949)* 706 20 -0.107 (0.314) 706 20 -0.356 (0.214)* 706 20 -0.356 (0.214)* 706 20 -0.315 (0.214)* 706 20 -0.356 (0.214) 706 20 -0.357 (0.317) 706 20 -0.356 (0.214) 706 20 -0.357 (0.317) 706 20 -0.356 (0.214) 706 20 -0.357 (0.314) 706 20 -0.356 (0.214) 706 20 -0.357 (0.314) 706 20 -0.357 (0.314) 706 20 -0.357 (0.314) 706 20 -0.357 (0.314) (0.315) (0	(0.236) 1762 30 0.154 (0.038)*** 1061 30 0.195 (0.030)*** 1061 30 134.363 (66.334)** 1061 30 0.0666 (0.243) 1061 30 -0.241 (0.166) 1061 30 -0.241 (0.166) 1061 30 -0.241 (0.166) 1061 30 -0.136

Table 8: Sensitivity of nonparametric LATE estimates to bandwidth choice (using road distance to the language border)

Table 9: Sharp parametric LATE estimates of the impact of common language on imports from the rest of the world to Switzerland (using road distance to the language border)

Sharp treatment effect with				ment=Roman la				
parametric polynomial or	1st order	2nd order	3rd order	Nonparam.	1st order	2nd order	3rd order	Nonparam
nonparametric control	All regions within the two re		e districts to left a	nd right of	All regions to left			n the same
function		language border	(0)	(1)		cantor		(0)
Value share	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8
Treatment	-0.050	-0.001	-0.003	-1.316	-0.063	-0.028	-0.023	-3.495
Treatment	(0.021)**	(0.031)	(0.040)	(5.369)	(0.027)**	(0.037)	(0.023	(6.625
Obs.	(0.021)	1483	(0.040)	(5.309) 943	(0.027) 821	(0.037) 821	(0.047) 821	(0.023)
Cent. R-squ./Bandwidth	0.004	0.006	0.005	32	0.006	0.006	0.005	34
Transactions share								
Treatment	-0.029	-0.001	-0.001	-0.629	-0.025	-0.009	-0.003	-1.123
rieaunent	(0.015)**	(0.022)	(0.028)	(3.697)	(0.019)	(0.026)	(0.032)	(4.721)
Obs.	1483	1483	1483	983	821	821	821	655
Cent. R-squ./Bandwidth	0.011	0.012	0.010	33	0.004	0.003	0.001	37
Number of products (HS8 ta	ariff lines)							
Treatment	-133.886	137.120	106.494	21.676	-121.162	81.316	91.833	26.740
	(51.655)***	(75.343)*	(96.630)	(122.406)	(56.462)**	(78.035)	(97,444)	(147.684)
Obs.	1483	1483	1483	579	821	821	821	419
Cent. R-squ./Bandwidth	0.015	0.032	0.030	21	0.007	0.022	0.020	24
Log unit value								
Treatment	0.029	0.176	-0.023	0.096	0.021	-0.013	0.100	0.008
	(0.121)	(0.178)	(0.228)	(0.291)	(0.136)	(0.189)	(0.236)	(0.364)
Obs.	1483	1483	1483	1221	821	821	821	821
Cent. R-squ./Bandwidth	0.012	0.012	0.012	41	0.007	0.006	0.004	50
Log value per transaction								
Treatment	-0.063	0.071	0.239	0.011	-0.105	0.048	0.187	-0.005
	(0.126)	(0.186)	(0.238)	(0.290)	(0.161)	(0.224)	(0.279)	(0.392)
Obs.	1483	1483	1483	1375	821	821	821	729
Cent. R-squ./Bandwidth	0.004	0.003	0.003	46	0.000	0.000	-0.002	42
Log quantity per transaction	n							
Treatment	0.133	0.107	0.668	0.124	0.160	0.415	0.726	0.327
	(0.202)	(0.298)	(0.381)*	(0.454)	(0.261)	(0.363)	(0.453)	(0.643)
Obs.	1483	1483	1483	1483	821	821	821	737
Cent, R-squ./Bandwidth	0.002	0.001	0.005	50	0.002	0.003	0.005	43

specifications including first-order to fifth-order polynomials.

Table 10: Testing for jun	ps at non-discontinuity po	ints (at the median of the forcing
variable)		

Common native language		Common nativ	e language=0			Common native	language=1	
effect with parametric	1st order	2nd order	3rd order	Nonparam.	1st order	2nd order	3rd order	Nonparam.
polynomial or			within the two resp					
nonparametric control	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Value share								
Treatment	0.297	1.172	1.777	-0.219	1.066	-0.134	3.155	4.950
Oha	(0.602)	(2.139)	(2.975)	(6.378)	(0.764)	(2.681)	(4.752)	(10.469)
Obs. Cost Blogu /Bondwidth	1486 0.185	1486 0.189	1486 0.065	1067 18	1482 0.078	1482	1482	1074 18
Cent. R-squ./Bandwidth	0.185	0.189	0.065	18	0.078	0.065	-0.484	18
Transactions share								
Treatment	0.311	-0.252	-0.178	0.735	0.517	0.206	0.885	1.271
	(0.434)	(1.718)	(2.186)	(4.292)	(0.609)	(2.142)	(3.012)	(5.928)
Obs.	1486	1486	1486	1201	1482	1482	1482	1243
Cent. R-squ./Bandwidth	0.262	0.091	0.122	20	0.122	0.107	0.108	21
Number of products (HS8 tariff								
Treatment	1294.781	-4120.781	3530.918	1847.861	-3981.226	18772.504	-20781.068	-48924.348
	(998.335)	(5236.917)	(5798.642)	(1544.496)	(2024.701)**	(16771.380)	(24858.635)	(80945.273)
Obs. Cost Blogu /Bondwidth	1486	1486	1486	1472	1482	1482	1482	1174 19
Cent. R-squ./Bandwidth	-0.030	-1.231	-0.630	26	-0.190	-5.722	-6.457	19
Log unit value								
Treatment	3.870	0.718	-12.294	-4.458	-4.051	22.866	-2.637	-52.684
	(4.438)	(15.027)	(25.231)	(44.743)	(3.683)	(22.836)	(17.664)	(93.767)
Obs.	1472	1472	1472	1149	1482	1482	1482	1176
Cent. R-squ./Bandwidth	0.028	0.039	-0.565	19	-0.047	-2.313	-0.001	19
Log value per transaction								
Treatment	1.029	-1.068	5.095	1.323	0.664	7.051	9.756	0.892
	(3.919)	(13.296)	(18.533)	(5.698)	(2.621)	(10.817)	(17.081)	(22.958)
Obs.	1472	1472	1472	1472	1482	1482	1482	1026
Cent. R-squ./Bandwidth	-0.002	0.006	-0.116	26	0.015	-0.380	-0.738	17
Log quantity per transaction	0 770	07.004	44.000	00.044	0.050	4 504	40.070	0.047
Treatment	3.778	-27.831	44.023	83.941	0.950	1.564	18.673	3.247
Oha	(7.117)	(32.971)	(59.230)	(159.776)	(4.653)	(16.235)	(30.734)	(30.622)
Obs. Cent. R-squ./Bandwidth	1472 -0.021	1472 -0.889	1472 -2.520	1190 20	1482 0.043	1482 0.041	1482 -0.736	1336 22
Cent. R-3qu./Dandwidth	-0.021						-0.750	22
Value share		P	Il regions to left ar	nd right of langua	ge border within	the same canton		
Treatment	-0.819	17.167	0.101	-2.178	0.625	-10.001	-3.383	-1.210
rreatment	(0.840)	(113.364)	(2.187)	(3.244)	(0.757)	(37.890)	-3.363 (5.419)	(2.469)
Obs.	(0.040) 824	824	(2.107) 824	(3.244) 651	(0.737) 820	(37.330) 820	820	(2.403)
Cent. R-squ./Bandwidth	-0.192	-39.614	0.151	20	0.120	-8.135	-0.941	19
Contant oqui Danamati	0.102	00.011	0.101	20	0.120	0.100	0.011	
Transactions share								
Treatment	-0.603	-3.484	1.250	-0.411	0.185	-2.124	-1.100	0.184
	(0.640)	(31.376)	(1.569)	(0.865)	(0.592)	(12.564)	(3.244)	(0.839)
Obs.	824	824	824	813	820	820	820	820
Cent. R-squ./Bandwidth	-0.166	-4.244	0.264	23	0.141	-0.603	-0.110	23
Number of products (HS8 tarif								
Treatment	-13.047	-4486.866	-1109.626	75.424	-2737.863	-41099.600	-3968.690	-8429.986
	(987.566)	(41224.402)	(3362.415)	(1149.528)	(1591.552)*	(142504.695)	(8080.382)	(8480.532)
Obs.	824	824	824	813	820	820	820	574
Cent. R-squ./Bandwidth	0.072	-2.027	-0.130	23	-0.069	-34.546	-0.187	17
Log unit value								
Treatment	9.722	-29.546	-1.730	14.859	-1.244	-10.132	6.489	-1.087
rieathent	(5.613)*	(141.463)	(16.050)	(15.436)	(3.275)	(59.460)	(17.756)	(4.480)
Obs.	(3.013) 813	813	(10.030) 813	(13.430) 692	(3.273) 820	(33.400) 820	820	(4.400) 820
Cent. R-squ./Bandwidth	-0.137	-3.087	0.017	21	0.016	-0.345	-0.246	23
Conta ne oqui Danamati	0.101	0.001	0.011		0.010	0.010	0.2.10	20
Log value per transaction								
Treatment	0.353	-0.641	0.006	0.262	1.369	-66.642	-4.059	-8.793
	(4.546)	(60.392)	(13.959)	(5.534)	(2.668)	(234.402)	(13.226)	(12.377)
Obs.	813	813	813	813	820	820	820	500
Cent. R-squ./Bandwidth	0.008	0.010	0.012	23	-0.008	-31.264	-0.067	15
Log quantity per transaction								
The star s at	-7.935	-25.526	8.988	-5.724	4.821	-1.180	25.158	4.870
Treatment								
	(8.671)	(147.669)	(27.439)	(15.901)	(4.577)	(69.661)	(34.286)	(9.178)
Obs. Cent. R-squ./Bandwidth			(27.439) 813 -0.111		(4.577) 820 0.007	(69.661) 820 0.046	(34.286) 820 -1.401	(9.178) 791 23

 Cent. R-squ./Bandwidth
 -0.050
 -0.722
 -0.111
 23
 0.007
 0.046
 -1.401
 23

 Notes: Treatment effect from instrumental variables regression. *** indicates statistical significance of parameters at 1% ** 5% * 10%. Regressions include distance to external border. The optimal bandwidth in nonparametric regressions is estimated according to Inbens and Kalyanaraman (2012). Parametric specifications are chosen according to AIC/BIC among specifications including first-order to fifth-order polynomials. Artifical breakpoint at median of forcing variable from true language border for common native language=0 and common native language=1: 26 km in upper and 23 km in lower panel.

Table 11: Testing for jumps at non-discontinuity points (at 15 km from the language border)

Common native language		Common native	language=0			Common native	language=1	
effect with parametric	1st order	2nd order	3rd order	Nonparam.	1st order	2nd order	3rd order	Nonparam.
polynomial or nonparametric						nd right of languag	e border	
control function	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Value share			(-7		(-)	1.1		(1)
Treatment	1.622	-24.690	-2.935	74.676	1.703	6.072	0.264	3.929
	(0.640)**	(181.484)	(3.343)	(818.919)	(0.838)**	(16.101)	(3.398)	(4.799)
Obs.	1486	1486	1486	637	1482	1482	1482	786
Cent. R-squ./Bandwidth	0.102	-91.251	-1.692	11	-0.008	-2.467	0.100	13
Transactions share								
Treatment	0.668	-14.216	-0.787	4.811	0.855	5.941	-1.235	2.280
	(0.431)	(106.303)	(1.700)	(6.313)	(0.643)	(15.022)	(3.316)	(3.005)
Obs.	1486	1486	1486	738	1482	1482	1482	817
Cent. R-squ./Bandwidth	0.292	-54.032	-0.210	13	0.115	-3.511	-0.282	14
Number of products (HS8 tariff	lines)							
Treatment	1677.203	-72941.638	-3323.046	-19828.055	-4932.135	-46788.025	2626.398	130510.660
	(1042.177)	(521280.463)	(4045.233)	(33092.434)	(2226.273)**	(118002.590)	(8835.979)	(1006240.300)
Obs.	1486	1486	1486	497	1482	1482	1482	467
Cent. R-squ./Bandwidth	-0.094	-348.259	-0.809	9	-0.305	-33.189	-0.118	8
Log unit value								
Treatment	5.269	0.012	14.907	-17.129	1.587	-4.901	2.854	3.138
	(4.582)	(67.402)	(18.066)	(20.015)	(3.804)	(40.205)	(16.564)	(5.670)
Obs.	1472	1472	1472	855	1482	1482	1482	1034
Cent. R-squ./Bandwidth	-0.001	0.028	-0.475	15	-0.013	-0.055	-0.044	20
·								
Log value per transaction								
Treatment	3.938	-103.635	-17.686	-174.466	2.389	-54.781	9.479	-19.959
	(4.131)	(394.701)	(19.150)	(853.086)	(2.814)	(139.857)	(15.446)	(31.628)
Obs.	1472	1472	1472	592	1482	1482	1482	687
Cent. R-squ./Bandwidth	-0.075	-43.042	-1.190	10	-0.029	-22.705	-0.686	12
Log quantity per transaction								
Treatment	-5.552	14.841	-8.055	0.595	-3.052	-84.877	14.868	-58.024
	(7.223)	(122.473)	(23.840)	(14.296)	(4.968)	(220.365)	(25.633)	(101.378)
Obs.	1472	1472	1472	940	1482	1482	1482	646
Cent. R-squ./Bandwidth	-0.015	-0.310	-0.048	17	0.010	-17.155	-0.432	11
		۵۱	regions to left an	nd right of langua	ae border within	the same canton		
Value share		7.0	regione to fort a	ia ngin on langua	ge berder mann			
Treatment	0.879	-1.807	-1.127	2.185	1.202	-4.009	2.369	0.713
	(0.786)	(4.608)	(1.687)	(1.455)	(0.954)	(13.793)	(2.877)	(1.503)
Obs.	824	824	824	616	820	820	820	640
Cent. R-squ./Bandwidth	0.228	-0.797	-0.333	20	0.078	-1.341	-0.169	22
Transactions share								
Treatment	-0.157	-0.342	-0.214	0.880	0.313	-2.345	1.343	0.064
	(0.654)	(2.631)	(1.079)	(2.032)	(0.726)	(9.465)	(2.067)	(1.520)
Obs.	824	824	824	552	820	820	820	590
Cent. R-squ./Bandwidth	0.101	0.013	0.080	16	0.148	-0.759	0.037	18
Number of products (HS8 tariff	lines)							
Treatment	286.952	-6138.171	-832.922	-16205.225	-1951.067	-20834.663	-64.809	5508.079
Heatment	(1135.163)	(9891.011)	(2001.051)	(82557.305)	(1903.610)	(52712.996)	(5022.750)	(11545.376)
Obs.	824	824	824	476	(1000.010) 820	820	820	343
Cent. R-squ./Bandwidth	0.092	-3.666	-0.057	14	-0.011	-8.404	0.020	10
Log unit value								
Treatment	2.132	18.390	6.664	-11.362	5.337	26.434	-2.869	8.049
Oha	(5.881)	(26.937)	(10.789)	(11.861)	(4.395)	(77.861)	(10.805)	(12.379)
Obs. Cent. R-squ./Bandwidth	813 0.055	813 -0.771	813 -0.002	599 19	820 -0.171	820 -3.460	820 0.014	556 16
2 Sharr oqua Dunumuti	0.000	0.771	0.002	15	0.171	0.400	0.014	10
Log value per transaction								
Treatment	1.503	-21.881	-15.942	-23.195	8.055	-19.697	3.801	8.298
	(5.259)	(30.166)	(13.286)	(30.557)	(3.985)**	(56.204)	(9.176)	(6.513)
Obs.	813	813	813	389	820	820	820	625
Cent. R-squ./Bandwidth	-0.005	-1.952	-1.020	11	-0.486	-2.587	-0.097	21
Log quantity per transaction								
	-7.763	-12.696	-19.187	-2.391	4.441	-58.609	16.764	-0.875
Treatment								
Ireatment	(9.960)	(35.031)	(20.454)	(13.696)	(5.610)	(155.143)	(18.995)	(14.880)
Obs.		(35.031) 813			(5.610) 820	(155.143) 820	(18.995) 820	(14.880) 558

<u>vent.</u> <u>vsqu/zandwidtn</u> <u>v0.048</u> <u>v0.1385</u> <u>v0.393</u> <u>23</u> <u>0.014</u> <u>v8.151</u> <u>v0.575</u> <u>17</u> Notes: Treatment effect from instrumental variables regression. *** indicates statistical significance of parameters at 1% ** 5% * 10%. Regressions include distance to external border. The optimal bandwidth in nonparametric regressions is estimated according to Imbens and Kalyanaraman (2012). Parametric specifications are chosen according to AIC/BIC among specifications including first-order to fifth-order polynomials. Artifical breakpoint at 15 km from true language border for common native language=0 and common native language=1.

king	gins		Ë
ige spea	ive mar		Nonparam.
non langue	duct intens	external border	3rd order
from comr	ler) on pro	Including distance to external border	2nd order
m imports	ıguage borc	Incl	1st order
tes of the impact of common language on imports from common language speaking	e to the lar		Nonparam.
of common	oad distanc	ression	3rd order
impact c	nd (using re	Baseline regression	2nd order
imates of th	o Switzerlar		1st order
Table 12: LATE estimate	bordering countries to Switzerland (using road distance to the language border) on product intensive margins	Common native language	effect with parametric

	Znd order Xid order Nonparam. 1st order Znd order Xid order	Nonparam. (4) (4) (0.075) (0.075) 2783 47 47 (0.098)** (0.098)** 34 34 34 (0.144) 2052 35 ight of language I	1st order tricts to left and (5) (0.061) 2954 0.046 0.140 (0.065)** 2954 0.029 (0.097) 2954 0.049	and right of language border 3rd order (6) (7) (7) (6) (7) (7) (6) (7) (7) (7) (7) (7) (7) (0) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	3rd order (7) -0.078 (0.141) 2954 0.048 0.048 0.048 0.048 0.048 0.033 0.033 0.033	Nonparam. (8) -0.034 (0.075) 2783 47 47 0.052 (0.099)** 204* 204* (0.143)* (0.143)*
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)) wull the two respect 4 -0.076 4 -0.076 4 2954 3 0.004 4 0.014 4 0.014 4 0.014 4 2954 4 0.014 4 0.032 8 0.239 7 2954 4 0.014 1 2954 4 0.014 1 2954 4 0.032 1 2954 1 2057 1 2057	ve ranguage uts (0.075) (0.075) 2783 47 47 0.283 47 2083 ** 34 34 (0.144) 2052 35 ight of language l	-0.018 -0.018 (0.061) 2954 0.046 0.046 0.029 -0.122 (0.097) 2954 0.049	(6) -0.054 -0.054 (0.100) 2954 0.048 0.048 0.048 0.033 -0.315 -0.315 -0.315 -0.315 -0.033 -0.033 -0.033 -0.034 -0.034 -0.055 -0.054 -0.055		(8) -0.034 (0.075) 2783 47 47 0.252 (0.099)** 2044 34 (0.103)* 2044 34 (0.143)*
riff lines) -0.044 -0.044 0.004 -0.044 (0.103) 2954 2954 2954 0.001 0.003 0.130 0.278 (0.066)** (0.108)** 2954 2954 0.009 0.014 -0.089 -0.292 (0.100) (0.165)* 2954 0.008 -0.004 -0.076		-0.019 (0.075) 2783 47 47 (0.098)** 2044 2044 34 (0.144) 2052 35 35	-0.018 (0.061) 2954 0.046 0.140 (0.065)** 2954 0.029 (0.097) 2954 0.049	-0.054 (0.100) 2954 0.048 0.048 0.048 0.048 0.033 -0.315 (0.161)***	-0.078 (0.141) 2954 0.048 0.048 0.048 0.048 0.056 0.033 0.033 0.033	-0.034 (0.075) 2783 47 47 0.252 (0.099)** 34 2044 34 (0.143)* 2052 (0.143)*
0.004 -0.044 -0.044 -0.044 -0.044 (0.103) 2954 2954 2954 0.003 0.278 (0.130 0.278 (0.066)** (0.108)** 2954 2954 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.008 0.014 0.014 0.008 0.014 0.008 0.014 0.008 0.014 0.008 0.008 0.014 0.008 0.0076		-0.019 (0.075) 2783 47 47 (0.098)** 2044 2044 34 (0.144) 2052 35 ight of language I	-0.018 (0.061) 2954 0.046 0.140 2954 0.029 -0.122 (0.097) 2954 0.049	-0.054 (0.100) 2954 0.048 0.048 0.033 -0.315 (0.161)***	-0.078 (0.141) 2954 0.048 0.048 0.048 0.056 0.033 0.033 0.033 0.033 0.033	-0.034 (0.075) 2783 47 47 0.252 (0.099)** 2044 34 34 (0.143)* 2052 (0.143)*
(0.062) (0.103) 2954 2954 2954 2954 0.003 0.001 0.130 0.278 (0.108)** 2954 2954 0.014 (0.066)** (0.108)** 2954 0.014 0.009 0.014 0.0145)* 2954 0.008 10.100) (0.165)* 2954 0.008 2954 0.008 0.0146 0.0076		(0.075) 2783 47 47 0.236 (0.098)** 34 34 -0.237 (0.144) 2052 35 35	(0.061) 2954 0.046 0.140 (0.065)** 2954 0.029 -0.122 (0.097) 2954 0.049	(0.100) 2954 0.048 0.048 (0.107)*** 2954 0.033 -0.315 (0.161)* 2954	(0.141) 2954 0.048 0.048 0.048 0.056 0.033 0.033 0.033 0.033 0.033	(0.075) 2783 47 0.252 (0.099)** 2044 34 -0.262 (0.143)* 2052
2954 2954 2954 2954 0.003 0.001 0.003 0.003 0.003 0.278 0.003 0.254 2954 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.001 0.014 0.008 0.014 0.008 0.014 0.008 0.014 0.008 0.007		2783 47 47 0.236 (0.098)** 2044 34 -0.237 (0.144) 2052 35 35	2954 0.046 0.140 (0.065)** 2954 0.029 -0.122 (0.097) 2954 0.049	2954 0.048 0.048 0.033 2954 0.033 -0.315 (0.161)*	2954 0.048 0.256 0.151)* 2954 0.033 0.033 0.033 0.033 0.033	2783 47 47 0.252 (0.099)** 2044 34 34 34 34 34 34 34 34 34 34 34 34 3
0.001 0.003 0.130 0.278 (0.666)** (0.108)** 2954 0.014 0.009 0.014 2954 0.014 2954 0.008 2954 0.008 2954 0.008 2954 0.008 8 tariff lines) -0.076		47 0.236 (0.098)** 2044 34 -0.237 (0.144) 2052 35 ight of language I	0.046 0.140 (0.065)** 2954 0.029 -0.122 (0.097) 2954 0.049	0.048 0.294 (0.107)*** 2954 0.033 -0.33 -0.315 (0.161)*	0.048 0.256 0.151)* 2954 0.033 0.033 0.033 0.227	47 0.252 (0.099)** 2044 34 -0.262 (0.143)* 2052
0.130 0.278 (0.066)** (0.108)** 2954 2954 0.009 0.014 0.014 0.014 2954 0.029 2954 0.008 2954 2954 2954 0.008 84ariff lines) 0.0076		0.236 (0.098)** 2044 34 34 -0.237 (0.144) 2052 35 35	0.140 (0.065)** 2954 0.029 -0.122 (0.097) 2954 0.049	0.294 (0.107)*** 2954 0.033 -0.315 (0.161)* 2954	0.256 (0.151)* 2954 0.033 0.033 -0.312 (0.227)	0.252 (0.099)** 2044 34 -0.262 (0.143)* 2052
0.130 0.278 (0.066)** (0.108)** 2954 2954 2954 0.009 0.014 -0.089 -0.292 (0.100) (0.165)* 2954 2954 0.008 2954 0.008 riff lines)		0.236 (0.098)** 2044 34 34 -0.237 (0.144) 2052 35 ight of language t	0.140 (0.065)** 2954 0.029 -0.122 (0.097) 2954 0.049	0.294 (0.107)*** 2954 0.033 -0.335 -0.315 (0.161)* 2954	0.256 (0.151)* 2954 0.033 0.033 -0.312 (0.227) 2654	0.252 (0.099)** 2044 34 -0.262 (0.143)* 2052
(0.066)** (0.108)** (0.108)** (0.108)** (0.108)** (0.108) (0.104) (0.165)*		(0.098)** 2044 34 -0.237 (0.144) 2052 35 ight of language t	(0.065)** 2954 0.029 -0.122 (0.097) 2954 0.049	(0.107)*** 2954 0.033 -0.315 (0.161)* 2954	(0.151)* 2954 0.033 -0.312 (0.227) 2674	(0.099)** 2044 34 -0.262 (0.143)* 2052
2.334 2.334 2.334 2.334 2.334 2.334 2.334 2.334 2.3954 2.3954 2.3554 2.3554 2.3554 0.008 2.3554 0.008 2.3554 0.008 0.008 1.11 lines)	4 0.014 2 -0.297 4 2954 3 0.008 All regions to left and 1	-044 34 -0.237 (0.144) 2052 35 35 ight of language l	-0.122 -0.122 (0.097) 2954 0.049	0.033 0.033 -0.315 (0.161)* 2954	2334 0.033 -0.312 (0.227) 2954	-044 34 -0.262 2052
-0.089 -0.292 (0.100) (0.165)* 2954 2954 2954 0.003 0.008 niff lines) -0.076	2 -0.297 4 (0.232) 4 2954 3 0.008 All regions to left and t	-0.237 -0.237 (0.144) 2052 35 35	-0.122 (0.097) 2954 0.049	-0.315 (0.161)* 2954	-0.312 (0.227) 2954	-0.262 (0.143)* 2052
-0.089 -0.292 (0.100) (0.165)* 2954 2954 0.003 0.008 niff lines) -0.076	2 -0.297 * (0.232) 4 2954 3 0.008 All regions to left and I	-0.237 (0.144) 2052 35 ight of language t	-0.122 (0.097) 2954 0.049	-0.315 (0.161)* 2954	-0.312 (0.227) 2954	-0.262 (0.143)* 2052
(0.100) (0.165)* 2954 2954 2954 0.003 0.008 0.008 -0.046 -0.076	* (0.232) 4 2954 3 0.008 All regions to left and i	(0.144) 2052 35 ight of language b	(0.097) 2954 0.049	(0.161)* 2954	(0.227) 2954	(0.143)* 2052 05
2954 2954 2954 2954 2954 2954 2954 2954	4 2954 3 0.008 All regions to left and I	2052 35 ight of language t	2954 0.049	2954	2954	2052
riff lines)	All regions to left and I	ight of language h	010.0	0.054	0.055	ç
riff lines) -0.046 -0.076	All regions to left and I	light of language t				2
-0.046			DOLDEL WILLIN	same canton		
	9.117	-0.056	-0.063	-0.049	-0.083	-0.058
(0.080) (0.126))	(0.087)	(0.079)	(0.124)	(0.167)	(0.085)
Obs. 1633 1633	3 1633	1633	1633	1633	1633	1633
Cent. R-squ/Bandwidth 0.004 0.006	0.008	50	0.038	0.039	0.040	50
Log unit value per product						
0.177		0.300	0.183	0.354	0.273	0.280
(0.088)** (0.13	.0)	(0.131)**	(0.086)**	(0.135)***	(0.182)	(0.128)**
1633		1063	1633	1633	1633	1063
Cent. R-squ./Bandwidth 0.022 0.030	0.030	30	0.049	0.055	0.055	30
Log quantity per product						
		-0.340	-0.212	-0.364	-0.310	-0.304
(0.133) (0.2	0)	(0.177)*	(0.129)	(0.203)*	(0.275)	(0.171)*
1633		1138	1633	1633	1633	1138
Cent. R-squ./Bandwidth 0.008 0.015	0.016	33	0.052	0.056	0.057	33

Table 13: LATE estimates of the impact of common language on imports from common language speaking bordering countries to Switzerland by language border region (using road distance to the language border)

Common native language effect with parametric	1st order	2nd order	aking regions only 3rd order	Nonparam.	1st order	an-German speak 2nd order	3rd order	Nonparam
polynomial or nonparametric	15t Uldel		within the two resp					Nonparam
control function	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Value share	(-)	(-/	(-)	(.)	(-)	(5)	(-)	(-/
Treatment	0.181	0.162	0.090	0.168	0.312	0.302	0.309	0.285
	(0.019)***	(0.031)***	(0.045)**	(0.023)***	(0.062)***	(0.093)***	(0.113)***	(0.082)***
Obs.	2578	2578	2578	2232	402	402	402	376
Cent. R-squ./Bandwidth	0.394	0.394	0.390	43	0.442	0.442	0.442	49
Transactions share								
Treatment	0.195	0.175	0.140	0.180	0.315	0.317	0.363	0.293
	(0.014)***	(0.024)***	(0.035)***	(0.020)***	(0.046)***	(0.068)***	(0.083)***	(0.059)***
Obs.	2578	2578	2578	2018	402	402	402	393
Cent. R-squ./Bandwidth	0.486	0.486	0.484	39	0.560	0.561	0.567	50
Number of products (HS8 tarif	f lines)							
Treatment	199.133	82.977	108.700	116.742	27.923	56.185	45.525	34.751
	(44.452)***	(74.473)	(107.428)	(60.163)*	(82.109)	(122.796)	(149.467)	(68.012)
Obs.	2578	2578	2578	1625	402	402	402	393
Cent. R-squ./Bandwidth	0.083	0.087	0.088	31	0.076	0.078	0.093	50
Log unit value								
Treatment	0.075	0.090	-0.030	0.078	0.157	0.249	-0.353	0.193
	(0.115)	(0.193)	(0.279)	(0.127)	(0.293)	(0.441)	(0.544)	(0.404)
Obs.	2573	2573	2573	2573	393	393	(0.344)	(0.404)
Cent. R-squ./Bandwidth	0.019	0.020	0.020	50	0.070	0.071	0.081	50
Log volue per transaction								
Log value per transaction Treatment	-0.080	-0.048	-0.216	-0.071	0.088	-0.175	-0.367	-0.045
Treatment	-0.080 (0.091)	-0.048 (0.153)	-0.216 (0.220)	(0.095)	(0.312)	-0.175 (0.469)	-0.367 (0.579)	-0.045 (0.377)
Obs.	(0.091) 2573	(0.153) 2573	(0.220) 2573	(0.095) 2573	(0.312) 393	(0.469) 393	(0.579) 393	(0.377) 340
Cent. R-squ./Bandwidth	0.016	0.017	0.017	2573	0.011	0.017	0.023	340 45
Cent. It-squ./Danuwidth	0.010	0.017	0.017	50	0.011	0.017	0.025	40
Log quantity per transaction								
Treatment	-0.019	-0.200	-0.327	-0.138	0.267	-0.743	-0.401	-0.298
	(0.165)	(0.276)	(0.398)	(0.202)	(0.529)	(0.794)	(0.978)	(0.764)
Obs.	2573	2573	2573	2084	393	393	393	240
Cent. R-squ./Bandwidth	0.026	0.027	0.027	40	0.048	0.057	0.069	35
Value share		A	Il regions to left and	d right of languag	e border within th	e same canton		
Treatment	0.159	0.139	0.095	0.149	0.344	0.271	0.282	0.261
		(0.037)***	(0.051)*	(0.028)***	(0.088)***	(0.127)**	(0.149)*	(0.117)**
	(0.023)				268	268		206
Obs.	(0.023)*** 1388	1388	1388	1184	200		268	
Obs. Cent. R-squ./Bandwidth		1388 0.443	1388 0.444	1184 39	0.486	0.483	268 0.485	43
Cent. R-squ./Bandwidth	1388							43
Cent. R-squ./Bandwidth	1388 0.444	0.443	0.444	39	0.486	0.483	0.485	
Cent. R-squ./Bandwidth	1388 0.444 0.182	0.443	0.444 0.186	39 0.180	0.486	0.483	0.485	0.266
Cent. R-squ./Bandwidth Transactions share Treatment	1388 0.444 0.182 (0.017)***	0.443 0.165 (0.027)***	0.444 0.186 (0.037)***	39 0.180 (0.022)***	0.486 0.303 (0.069)***	0.483 0.229 (0.100)**	0.485 0.275 (0.116)**	
Cent. R-squ./Bandwidth	1388 0.444 0.182	0.443	0.444 0.186	39 0.180	0.486	0.483	0.485	0.266 (0.082)***
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth	1388 0.444 0.182 (0.017)*** 1388 0.578	0.443 0.165 (0.027)*** 1388	0.444 0.186 (0.037)*** 1388	39 0.180 (0.022)*** 1108	0.486 0.303 (0.069)*** 268	0.483 0.229 (0.100)** 268	0.485 0.275 (0.116)** 268	0.266 (0.082)*** 194
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif	1388 0.444 (0.017)*** 1388 0.578 f lines)	0.443 0.165 (0.027)*** 1388 0.580	0.444 0.186 (0.037)*** 1388 0.583	39 0.180 (0.022)*** 1108 36	0.486 0.303 (0.069)*** 268 0.556	0.483 0.229 (0.100)** 268 0.549	0.485 0.275 (0.116)** 268 0.559	0.266 (0.082)*** 194 41
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654	0.443 0.165 (0.027)*** 1388 0.580 103.652	0.444 0.186 (0.037)*** 1388 0.583 195.674	39 0.180 (0.022)*** 1108 36 139.000	0.486 0.303 (0.069)*** 268 0.556 83.301	0.483 0.229 (0.100)** 268 0.549 92.086	0.485 0.275 (0.116)** 268 0.559 16.999	0.266 (0.082)*** 194 41 89.513
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment	1388 0.444 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)***	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024)	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)*	39 0.180 (0.022)*** 1108 36 139.000 (68.926)**	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146)	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109)	0.485 0.275 (0.116)** 268 0.559 16.999 (160.048)	0.266 (0.082)*** 194 41 89.513 (102.305)
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654	0.443 0.165 (0.027)*** 1388 0.580 103.652	0.444 0.186 (0.037)*** 1388 0.583 195.674	39 0.180 (0.022)*** 1108 36 139.000	0.486 0.303 (0.069)*** 268 0.556 83.301	0.483 0.229 (0.100)** 268 0.549 92.086	0.485 0.275 (0.116)** 268 0.559 16.999	0.266 (0.082)*** 194 41 89.513
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268	0.485 0.275 (0.116)** 268 0.559 16.999 (160.048) 268	0.266 (0.082)*** 194 41 89.513 (102.305) 260
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103	39 (0.022)*** 1108 36 139.000 (68.926)** 1070 34	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080	0.485 0.275 (0.116)** 268 0.559 (160.048) 268 0.155	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070 34 0.124	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.080	0.485 (0.116)** 268 0.559 (160.048) 268 0.155 -0.962	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143)	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226)	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312)	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070 34 0.124 (0.214)	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460)	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.063 (0.666)	0.485 0.275 (0.116)** 268 0.559 (160.048) 268 0.155 -0.962 (0.784)	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590)
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070 34 0.124	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.080	0.485 (0.116)** 268 0.559 (160.048) 268 0.155 -0.962	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143) 1385	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226) 1385	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312) 1385	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070 34 0.124 (0.214) 1154	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460) 260	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.063 (0.666) 260	0.485 0.275 (0.116)** 268 0.559 (160.048) 268 0.155 -0.962 (0.784) 260	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590) 260
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143) 1385 0.035	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226) 1385 0.036	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312) 1385 0.038	39 0.180 (0.022)*** 1108 36 139,000 (68,926)** 1070 34 0.124 (0.214) 1154 38	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460) 260 0.088	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.063 (0.666) 260 0.095	0.485 0.275 (0.116)** 268 0.559 (160.048) 268 0.155 -0.962 (0.784) 260 0.119	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590) 260 50
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143) 1385 0.035	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226) 1385 0.036 -0.107	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312) 1385 0.038 -0.441	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070 34 0.124 (0.214) 1154 38 -0.165	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460) 260 0.088 0.088	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.063 (0.666) 260 0.095 -0.177	0.485 0.275 (0.116)** 268 0.559 (16.999 (160.048) 268 0.155 -0.962 (0.784) 260 0.119 -0.229	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590) 260 50 -0.059 50
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143) 1385 0.035 -0.177 (0.121)	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226) 1385 0.036 -0.007 (0.190)	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312) 1385 0.038 -0.441 (0.262)*	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070 34 0.124 (0.214) 1154 38 -0.165 (0.129)	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460) 260 0.088 0.101 (0.438)	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.063 (0.666) 260 0.095 -0.177 (0.632)	0.485 0.275 (0.116)** 268 0.559 16.999 (160.048) 268 0.155 -0.962 (0.784) 260 0.119 -0.229 (0.744)	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590) 260 50 -0.170 (0.534)
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143) 1385 0.035	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226) 1385 0.036 -0.107	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312) 1385 0.038 -0.441	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070 34 0.124 (0.214) 1154 38 -0.165	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460) 260 0.088 0.088	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.063 (0.666) 260 0.095 -0.177	0.485 0.275 (0.116)** 268 0.559 (16.999 (160.048) 268 0.155 -0.962 (0.784) 260 0.119 -0.229	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590) 260 50 -0.170 (0.534) 227
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143) 1385 0.035	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226) 1385 0.036 -0.107 (0.190) 1385	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312) 1385 0.038 -0.441 (0.262)* 1385	39 0.180 (0.022)*** 1108 36 139,000 (68,926)** 1070 34 0.124 (0.214) 1154 38 -0.165 (0.129) 1375	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460) 260 0.088 0.101 (0.438) 260	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.063 (0.666) 260 0.095 -0.177 (0.632) 260	0.485 0.275 (0.116)** 268 0.559 16.999 (160.048) 268 0.155 -0.962 (0.784) 260 0.119 -0.229 (0.744) 260	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590) 260 50 -0.170 (0.534) 227
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143) 1385 0.035 -0.177 (0.121) 1385 0.011	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226) 1385 0.036 -0.107 (0.190) 1385 0.012	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312) 1385 0.038 -0.441 (0.262)* 1385 0.014	39 0.180 (0.022)*** 1108 36 139,000 (68,926)** 1070 34 0.124 (0.214) 1154 38 -0.165 (0.129) 1375 49	0.486 0.303 (0.069)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460) 260 0.088 0.101 (0.438) 260 0.010	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.063 (0.666) 260 0.095 -0.177 (0.632) 260 0.022	0.485 0.275 (0.116)** 268 0.559 16.999 (160.048) 268 0.155 -0.962 (0.784) 260 0.119 -0.229 (0.744) 260 0.119	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590) 260 50 -0.170 (0.534) 227 46
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143) 1385 0.035 -0.177 (0.121) 1385 0.011	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226) 1385 0.036 -0.107 (0.190) 1385 0.012 0.015	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312) 1385 0.038 -0.441 (0.262)* 1385 0.014	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070 34 0.124 (0.214) 1154 38 -0.165 (0.129) 1375 49 -0.023	0.486 0.303 (0.69)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460) 260 0.088 0.101 (0.438) 260 0.010 -0.010	0.483 0.229 (0.100)** 268 0.549 92.086 (142,109) 268 0.080 0.063 (0.666) 260 0.095 -0.177 (0.632) 260 0.022 -1.498	0.485 0.275 (0.116)** 268 0.559 16.999 (160.048) 268 0.155 -0.962 (0.784) 260 0.119 -0.229 (0.744) 260 0.048 -0.440	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590) 260 50 -0.170 (0.534) 227 46 -0.712
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction Treatment	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143) 1385 0.035 -0.177 (0.121) 1385 0.011 1385 0.011	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226) 1385 0.036 -0.107 (0.190) 1385 0.012 0.015 (0.344)	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312) 1385 0.038 -0.441 (0.262)* 1385 0.014 -0.197 (0.474)	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070 34 0.124 (0.214) 1154 38 -0.165 (0.129) 1375 49 -0.023 (0.235)	0.486 0.303 (0.08)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460) 260 0.088 0.101 (0.438) 260 0.101 (0.438) 260 0.101 (0.438) 260 0.101	0.483 0.229 (0.100)** 268 0.549 92.086 (142.109) 268 0.080 0.063 (0.666) 260 0.095 -0.177 (0.632) 260 0.022 -1.498 (1.075)	0.485 0.275 (0.116)** 268 0.559 16.999 (160.048) 268 0.155 -0.962 (0.784) 260 0.119 -0.229 (0.744) 260 0.419 -0.229 (0.744) 260 0.419	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590) 260 50 -0.170 (0.534) 227 46 -0.712 (1.101)
Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction	1388 0.444 0.182 (0.017)*** 1388 0.578 f lines) 197.654 (49.505)*** 1388 0.097 0.042 (0.143) 1385 0.035 -0.177 (0.121) 1385 0.011	0.443 0.165 (0.027)*** 1388 0.580 103.652 (78.024) 1388 0.101 0.214 (0.226) 1385 0.036 -0.107 (0.190) 1385 0.012 0.015	0.444 0.186 (0.037)*** 1388 0.583 195.674 (107.625)* 1388 0.103 0.157 (0.312) 1385 0.038 -0.441 (0.262)* 1385 0.014	39 0.180 (0.022)*** 1108 36 139.000 (68.926)** 1070 34 0.124 (0.214) 1154 38 -0.165 (0.129) 1375 49 -0.023	0.486 0.303 (0.69)*** 268 0.556 83.301 (99.146) 268 0.079 -0.166 (0.460) 260 0.088 0.101 (0.438) 260 0.010 -0.010	0.483 0.229 (0.100)** 268 0.549 92.086 (142,109) 268 0.080 0.063 (0.666) 260 0.095 -0.177 (0.632) 260 0.022 -1.498	0.485 0.275 (0.116)** 268 0.559 16.999 (160.048) 268 0.155 -0.962 (0.784) 260 0.119 -0.229 (0.744) 260 0.048 -0.440	0.266 (0.082)*** 194 41 89.513 (102.305) 260 50 -0.059 (0.590) 260 50 -0.170 (0.534) 227 46 -0.712

external border. The optimal bandwidth in nonparametric regressions is estimated according to Imbens and Kalyanaraman (2012). Parametric specifications are chosen according to AIC/BIC among specifications including first-order to fifth-order polynomials.

Common native language		Imports from				Imports from				ports from Austria		
effect with parametric	1st order	2nd order	3rd order	Nonparam.	1st order	2nd order	3rd order	Nonparam.	1st order	2nd order	3rd order	Nonparar
oolynomial or nonparametric				All regions w	ithin the two resp	ective language o	listricts to left and	I right of language	e border			
control function	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12
/alue share												
Treatment	0.185	0.168	0.126	0.167	0.437	0.310	0.273	0.394	0.147	0.157	0.064	0.14
	(0.020)***	(0.034)***	(0.048)***	(0.024)***	(0.076)***	(0.118)***	(0.151)*	(0.102)***	(0.027)***	(0.044)***	(0.062)	(0.030)**
Obs.	1287	1287	1287	1032	256	256	256	198	1482	1482	1482	148
Cent. R-squ./Bandwidth	0.423	0.423	0.424	40	0.550	0.555	0.554	42	0.298	0.302	0.300	52
Transactions share Treatment	0.188	0.182	0.158	0.178	0.417	0.323	0.325	0.400	0.172	0.171	0.139	0.17
Treatment												
	(0.013)***	(0.021)***	(0.030)***	(0.016)***	(0.054)***	(0.084)***	(0.107)***	(0.078)***	(0.018)***	(0.030)***	(0.041)***	(0.023)**
Obs. Cent. R-squ./Bandwidth	1287 0.553	1287 0.554	1287 0.555	928 35	256 0.706	256 0.705	256 0.705	209 44	1482 0.470	1482 0.473	1482 0.473	1303
Cent. K-aqu./Danuwidin	0.555	0.554	0.555	55	0.700	0.705	0.705	44	0.470	0.475	0.475	
Number of products (HS8 tariff	f lines)											
Treatment	87.356	217.513	178.986	161.229	-77.614	-10.615	38.269	-18.049	270.596	-3.050	49.233	111.25
	(34.441)**	(58.021)***	(82.894)**	(63.108)**	(94.987)	(147.340)	(185.572)	(84.710)	(69.148)***	(113.116)	(158.853)	(110.348
Obs.	1287	1287	1287	707	256	256	256	241	1482	1482	1482	63
Cent. R-squ./Bandwidth	0.055	0.064	0.065	27	0.199	0.215	0.234	50	0.127	0.146	0.144	2
Log unit value Treatment	-0.213	-0.648	-0.892	0.129	0.731	0.020	0.259	0.969	-0.128	-0.192	-0.307	0.014
riedunient												
Obs	(0.460)	(0.610)	(0.752)	(0.236) 1283	(0.976) 247	(1.175) 247	(1.338)	(0.565)* 239	(0.279)	(0.362)	(0.427)	(0.141
Obs. Cent. R-squ./Bandwidth	1283 0.042	1283 0.040	1283 0.039	1283 50	247 0.053	247 0.057	247 0.059	239 49	1481 0.017	1481 0.018	1481 0.022	148 5
Conc. R-Squ./Danuwi0th	0.042	0.040	0.039	50	0.003	0.057	0.039	49	0.017	0.018	0.022	50
Log value per transaction												
Treatment	-0.034	-0.192	-0.465	-0.059	0.542	1.272	1.168	0.492	-0.488	-0.583	-0.772	-0.076
	(0.347)	(0.460)	(0.566)	(0.145)	(1.013)	(1.217)	(1.387)	(0.472)	(0.261)*	(0.339)*	(0.400)*	(0.138)
Obs.	1283	1283	1283	1283	247	247	247	142	1481	1481	1481	1459
Cent. R-squ./Bandwidth	0.017	0.017	0.018	50	0.083	0.089	0.090	34	0.025	0.026	0.028	49
Log quantity per transaction												
Treatment	-0.136	0.820	0.642	-0.098	0.399	1.143	0.578	0.966	-0.548	-0.876	-1.401	-0.310
	(0.670)	(0.886)	(1.091)	(0.341)	(1.759)	(2.115)	(2.411)	(1.011)	(0.416)	(0.540)	(0.637)**	(0.216)
Obs.	1283	1283	1283	918	247	247	247	109	1481	1481	1481	1481
Cent. R-squ./Bandwidth	0.017	0.019	0.020	35	0.151	0.156	0.156	30	0.030	0.032	0.032	50
		0.019	0.020			0.156	0.156		0.030	0.032	0.032	50
Value share	0.017			All	0.151 regions to left and	0.156 d right of languag	0.156 e border within th	e same canton				
	0.017	0.159	0.104	All 0.177	0.151 regions to left and -0.751	0.156 d right of languag -0.334	0.156 e border within th -0.661	e same canton 0.011	0.108	0.114	0.033	0.116
Value share Treatment	0.017	0.159 (0.041)***	0.104 (0.056)*	All 0.177 (0.034)***	0.151 regions to left and -0.751 (1.092)	0.156 d right of languag -0.334 (0.811)	0.156 e border within th -0.661 (1.093)	e same canton 0.011 (0.366)	0.108 (0.036)***	0.114 (0.058)**	0.033 (0.078)	0.116 (0.038)***
Value share Treatment Obs.	0.017 0.196 (0.026)*** 692	0.159 (0.041)*** 692	0.104 (0.056)* 692	0.177 (0.034)*** 521	0.151 regions to left and -0.751 (1.092) 171	0.156 d right of languag -0.334 (0.811) 171	0.156 e border within th -0.661 (1.093) 171	0.011 (0.366) 64	0.108 (0.036)*** 820	0.114 (0.058)** 820	0.033 (0.078) 820	0.116 (0.038)*** 820
Value share Treatment	0.017	0.159 (0.041)***	0.104 (0.056)*	All 0.177 (0.034)***	0.151 regions to left and -0.751 (1.092)	0.156 d right of languag -0.334 (0.811)	0.156 e border within th -0.661 (1.093)	e same canton 0.011 (0.366)	0.108 (0.036)***	0.114 (0.058)**	0.033 (0.078)	0.116
Value share Treatment Obs. Cent. R-squ./Bandwidth	0.017 0.196 (0.026)*** 692	0.159 (0.041)*** 692	0.104 (0.056)* 692	0.177 (0.034)*** 521	0.151 regions to left and -0.751 (1.092) 171	0.156 d right of languag -0.334 (0.811) 171	0.156 e border within th -0.661 (1.093) 171	0.011 (0.366) 64	0.108 (0.036)*** 820	0.114 (0.058)** 820	0.033 (0.078) 820	0.116 (0.038)*** 820
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share	0.017 0.196 (0.026)*** 692 0.357	0.159 (0.041)*** 692 0.359	0.104 (0.056)* 692 0.362	0.177 (0.034)*** 521 33	0.151 regions to left and -0.751 (1.092) 171 0.418	0.156 d right of languag -0.334 (0.811) 171 0.513	0.156 e border within th -0.661 (1.093) 171 0.460	0.011 (0.366) 64 30	0.108 (0.036)*** 820 0.272	0.114 (0.058)** 820 0.273	0.033 (0.078) 820 0.274	0.116 (0.038)*** 820 50
Value share Treatment Obs. Cent. R-squ./Bandwidth	0.017 0.196 (0.026)*** 0.357 0.206	0.159 (0.041)*** 692 0.359 0.195	0.104 (0.056)* 692 0.362 0.184	All 0.177 (0.034)*** 521 33 0.203	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374	e same canton 0.011 (0.366) 64 30 -0.131	0.108 (0.036)*** 820 0.272 0.160	0.114 (0.058)** 820 0.273 0.148	0.033 (0.078) 820 0.274 0.145	0.116 (0.038)*** 820 50 0.160
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment	0.017 0.196 (0.026)*** 692 0.357 0.206 (0.017)***	0.159 (0.041)*** 692 0.359 0.195 (0.026)***	0.104 (0.056)* 692 0.362 0.184 (0.036)***	All 0.177 (0.034)*** 521 33 0.203 (0.023)***	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994)	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671)	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374 (1.063)	e same canton 0.011 (0.366) 64 30 -0.131 (0.241)	0.108 (0.036)*** 820 0.272 0.160 (0.024)***	0.114 (0.058)** 820 0.273 0.148 (0.038)***	0.033 (0.078) 820 0.274 0.145 (0.052)***	0.116 (0.038)*** 820 50 0.160 (0.031)***
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs.	0.017 0.196 (0.026)*** 0.357 0.206	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692	0.104 (0.056)* 692 0.362 0.184 (0.036)*** 692	All 0.177 (0.034)*** 521 33 0.203	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994) 171	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671) 171	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374 (1.063) 171	e same canton 0.011 (0.366) 64 30 -0.131	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820	0.114 (0.058)** 820 0.273 0.148 (0.038)*** 820	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820	0.116 (0.038)*** 820 50 0.160 (0.031)***
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment	0.017 0.196 (0.026)*** 692 0.357 0.206 (0.017)*** 692	0.159 (0.041)*** 692 0.359 0.195 (0.026)***	0.104 (0.056)* 692 0.362 0.184 (0.036)***	All 0.177 (0.034)*** 521 33 0.203 (0.023)*** 536	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994)	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671)	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374 (1.063)	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) 63	0.108 (0.036)*** 820 0.272 0.160 (0.024)***	0.114 (0.058)** 820 0.273 0.148 (0.038)***	0.033 (0.078) 820 0.274 0.145 (0.052)***	0.116 (0.038)*** 820 50 0.160 (0.031)** 66'
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff	0.017 0.196 (0.026)*** 692 0.357 0.206 (0.017)*** 692 0.537 f lines)	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692 0.538	0.104 (0.056)* 692 0.362 0.184 (0.036)*** 692 0.538	All 0.177 (0.034)*** 521 33 (0.203 (0.023)*** 536 35	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994) 171 0.369	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671) 171 171 0.563	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374 (1.063) 171 0.332	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) 63 29	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419	0.114 (0.058)** 820 0.273 0.148 (0.038)*** 820 0.424	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426	0.116 (0.038)*** 50 0.160 (0.031)*** 661 35
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth	0.017 0.196 (0.026)*** 692 0.357 0.206 (0.017)*** 692 0.537 f lines) 68.373	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692 0.538 231.762	0.104 (0.056)* 692 0.362 0.184 (0.036)*** 692 0.538 188.088	All 0.177 (0.034)*** 521 33 0.203 (0.023)*** 536 35 158.379	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994) 171 0.369 -616.862	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671) 171 0.563 82.415	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374 (1.063) 171 0.332 -227.342	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) 63 29 825.540	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074	0.114 (0.058)** 820 0.273 0.148 (0.038)*** 820 0.424 80.589	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426 68.073	0.116 (0.038)*** 50 0.160 (0.031)*** 66 38 108.837
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment	0.017 0.196 (0.026)*** 692 0.357 0.206 (0.017)*** 692 0.537 f lines) 68.373 (42.789)	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692 0.538 231.762 (65.764)***	0.104 (0.056)* 692 0.362 0.362 0.384 (0.036)*** 692 0.538 188.088 (90.023)**	All 0.177 (0.034)*** 521 33 0.203 (0.023)*** 536 35 158.379 (85.340)*	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994) .0.369 -616.862 (1041.968)	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671) 171 0.563 82.415 (745.163)	0.156 e border within th -0.661 (1.093) 1.037 0.460 -1.374 (1.063) 171 0.332 -227.342 (968.260)	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) 63 29 825.540 (665.563)	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)***	0.114 (0.058)** 820 0.273 0.148 (0.038)*** 820 0.424 80.589 (130.130)	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426 68.073 (175.542)	0.116 (0.038)*** 82(50 0.16((0.031)*** 661 36 108.837 (127.495)
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs.	0.017 0.196 (0.026)*** 692 0.357 0.206 (0.017)*** 692 0.537 f lines) 68.373 (42.789) 692	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692 0.538 231.762 (65.764)**	0.104 (0.056)* 692 0.362 0.362 0.363 (90.036)*** 692 0.538 188.088 (90.023)** 692	All 0.177 (0.034)*** 521 33 0.203 (0.023)*** 536 35 158.379 (85.340)* 401	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994) 171 0.369 -616.862 (1041.968) 171	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671) 171 0.563 82.415 (745.163) 171	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374 (1.063) 171 0.332 -227.342 (968.260) 171	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) 63 29 825.540 (665.563) 117	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)*** 820	0.114 (0.058)** 820 0.273 0.273 0.148 (0.038)*** 820 0.424 80.589 (130.130) 820	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426 68.073 (175.542) 820	0.116 (0.038)*** 820 50 (0.031)*** (0.031)*** 661 36 108.837 (127.495) 437
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment	0.017 0.196 (0.026)*** 692 0.357 0.206 (0.017)*** 692 0.537 f lines) 68.373 (42.789)	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692 0.538 231.762 (65.764)***	0.104 (0.056)* 692 0.362 0.362 0.384 (0.036)*** 692 0.538 188.088 (90.023)**	All 0.177 (0.034)*** 521 33 0.203 (0.023)*** 536 35 158.379 (85.340)*	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994) .0.369 -616.862 (1041.968)	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671) 171 0.563 82.415 (745.163)	0.156 e border within th -0.661 (1.093) 1.037 0.460 -1.374 (1.063) 171 0.332 -227.342 (968.260)	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) 63 29 825.540 (665.563)	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)***	0.114 (0.058)** 820 0.273 0.148 (0.038)*** 820 0.424 80.589 (130.130)	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426 68.073 (175.542)	0.116 (0.038)*** 820 50 0.160
Value share Treatment Obs. Cent. R-squ./Bandwidth Traatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth	0.017 0.196 (0.026)*** 692 0.357 0.206 (0.017)*** 692 0.537 f lines) 68.373 (42.789) 692	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692 0.538 231.762 (65.764)**	0.104 (0.056)* 692 0.362 0.362 0.363 (90.036)*** 692 0.538 188.088 (90.023)** 692	All 0.177 (0.034)*** 521 33 0.203 (0.023)*** 536 35 158.379 (85.340)* 401	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994) 171 0.369 -616.862 (1041.968) 171	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671) 171 0.563 82.415 (745.163) 171	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374 (1.063) 171 0.332 -227.342 (968.260) 171	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) 63 29 825.540 (665.563) 117	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)*** 820	0.114 (0.058)** 820 0.273 0.273 0.148 (0.038)*** 820 0.424 80.589 (130.130) 820	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426 68.073 (175.542) 820	0.116 (0.038)*** 820 50 (0.031)*** (0.031)*** 661 36 108.837 (127.495) 437
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value	0.017 0.196 (0.028)*** 692 0.357 0.206 (0.017)*** 692 0.537 f lines) 68.373 (42.789) 692 0.064	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692 0.538 231.762 (65.764)*** 692 0.094	0.104 (0.056)* 692 0.362 0.184 (0.036)*** 692 0.538 188.088 (90.023)** 692 0.095	All 0.177 (0.034)*** 521 33 0.203 (0.023)*** 536 35 158.379 (85.340)* 401 25	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994) 171 0.369 -616.862 (1041.968) 171 -0.020	0.156 d right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671) 171 0.563 82.415 (745.163) 171 0.207	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374 (1.063) 171 0.332 -227,342 (968.260) 171 0.184	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) 63 29 825.540 (665.563) 117 38	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)*** 820 0.045	0.114 (0.058)** 820 0.273 0.148 (0.038)*** 820 0.424 80.589 (130.130) 820 0.069	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426 68.073 (175.542) 820 0.070	0.11f (0.038)*** 82C 50 0.166 (0.031)*** 661 36 108.837 (127.495) 433 24
Value share Treatment Obs. Cent. R-squ./Bandwidth Traatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth	0.017 0.196 (0.026)*** 682 0.357 0.206 (0.017)*** 682 0.537 (42.789) 68.373 (42.789) 682 0.064 0.299	0.159 (0.041)*** 692 0.359 0.195 (0.026)** 692 0.538 231.762 (65.764)** 692 0.538 231.762 (65.764)**	0.104 (0.556)* 692 0.362 0.184 (0.036)*** 692 0.538 188.088 (90.023)** 692 0.095	All 0.177 (0.034)*** 521 33 0.203 (0.023)*** 536 35 158.379 (85.340)* (85.340)* 25 -0.046	0.151 regions to left and -0.751 (1.092) 171 0.418 -1.150 (0.994) 171 0.369 -616.862 (1041.968) 171 -0.020 5.563	0.156 1 right of languag -0.334 (0.811) 171 0.513 -0.603 (0.671) 171 0.563 82.415 (745.163) 82.415 (745.163) 171 0.207 2.845	0.156 s border within th -0.661 (1.093) 171 0.460 -1.374 (1.063) 171 0.332 -227.342 (968.260) 171 0.184 2.908	e same canton 0.011 (0.366) 66 4 30 -0.131 (0.241) 63 29 825.540 (665.563) 117 38 0.846	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)*** 820 0.045 -0.470	0.114 (0.058)** 820 0.273 0.148 (0.038)*** 820 0.424 80.589 (130.130) 820 0.669 -0.628	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426 68.073 (175.542) 820 0.070	0.116 (0.038)*** 50 0.160 (0.031)*** 616 32 108.837 (127.495) 437 24 0.004
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value Treatment	0.017 0.196 (0.026)*** 692 0.357 0.206 (0.017)*** 682 0.537 f lines) 68.373 (42.789) 692 0.064 0.299 (0.556)	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692 0.538 231.762 (65.764)*** 692 0.094 -0.167 (0.722)	0.104 (0.056)* 692 0.362 0.184 (0.036)*** 692 0.538 188.088 (90.023)** 692 0.995 -0.326 (0.848)	All 0.177 (0.034)*** 521 33 0.203 (0.023)*** 536 35 158.379 (85.340)* 401 25 -0.046 (0.310)	0.151 regions to left and 0.751 (1.092) 171 0.418 (0.994) 171 0.369 -616.862 (1041.968) 171 -0.020 5.563 (7.086)	0.156 1 right of language -0.334 (0.811) 171 0.513 -0.603 (0.671) 171 0.563 82.415 (745.163) 171 0.207 2.845 (7.338)	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374 (1.063) 171 0.332 -227.342 (968.260) 171 0.184 2.908 (17.195)	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) 63 29 825.540 (665.563) 117 38 0.846 (3.899)	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)*** 820 0.045 -0.470 (0.329)	0.114 (0.058)** 820 0.273 0.148 (0.038)*** 820 0.424 80.589 (130.130) 820 0.669 -0.628 (0.417)	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426 68.073 (175.542) 820 0.070 -0.719 (0.483)	0.116 (0.038)*** 822 55 (0.166 (0.031)*** 661 38 108.837 (127.495 433 24 0.004 (0.192)
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs.	0.017 0.196 692 0.357 0.066 692 0.357 0.067 692 0.357 (0.017)*** 692 0.357 (0.017)*** 692 0.357 (0.026)** 692 0.357 (0.057)** 692 0.056 (0.057)** 692 0.056 (0.055) 692 0.056 (0.055) 692 0.056 (0.055) 692 0.056 (0.055) 692 0.056 (0.055) 693 0.056 (0.056) 693 0.056 (0.056) 0.656 (0.056) 0.656 0.556 0.557 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.557 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.557 0.556 0.556 0.556 0.556 0.556 0.557 0.557 0.556 0.556 0.557 0.	0.159 (0.041)*** 692 0.359 0.255 (0.026)** 692 0.538 231.762 (65.764)** 692 0.538 231.762 (65.764)** (0.722) 689	0.104 (0.056)* 692 0.362 0.362 0.363 (0.36)** 692 0.538 188.088 (90.023)** 692 0.995 -0.326 (0.848) 689	All 0.177 (0.034)*** (0.023)*** 0.203 (0.023)*** 0.203 (0.023)** 536 35 158.379 (85.340)* (85.340)* (0.310) 689	0.151 regions to left any -0.751 (1.092) 171 0.418 -1.150 (0.994) -516.862 (1041.968) 171 -0.020 5.563 (7.086) 163	0.156 0.334 0.334 0.831) 171 0.513 0.6631 171 0.563 82.415 (745.163) 177 0.207 2.845 (7.338) 163	0.156 e border within th -0.661 (1.033) 1771 0.460 -1.374 (1.063) 1771 0.332 -227.342 (968.262) 1771 0.184 2.906 (17.195) 163	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) (0.241) 63 29 825.540 (665.563) 17 38 0.846 (3.899) 118	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)** 820 0.445 820 0.045 -0.470 (0.329) 820	0.114 (0.058)** 820 0.273 0.148 (0.038)** 820 0.424 80.589 (130.130) 820 0.669 -0.628 (0.417) 820	0.033 (0.078) 820 0.274 0.145 (0.052)*** 0.426 68.073 (175.542) 820 0.426 68.073 (175.542) 820 0.070	0.116 (0.038)*** 50 0.16((0.031)*** 36 106.833 (127.495) 433 24 0.004 (0.192) 822
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment	0.017 0.196 (0.026)*** 692 0.357 0.206 (0.017)*** 682 0.537 f lines) 68.373 (42.789) 692 0.064 0.299 (0.556)	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692 0.538 231.762 (65.764)*** 692 0.094 -0.167 (0.722)	0.104 (0.056)* 692 0.362 0.184 (0.036)*** 692 0.538 188.088 (90.023)** 692 0.995 -0.326 (0.848)	All 0.177 (0.034)*** 521 33 0.203 (0.023)*** 536 35 158.379 (85.340)* 401 25 -0.046 (0.310)	0.151 regions to left and 0.751 (1.092) 171 0.418 (0.994) 171 0.369 -616.862 (1041.968) 171 -0.020 5.563 (7.086)	0.156 1 right of language -0.334 (0.811) 171 0.513 -0.603 (0.671) 171 0.563 82.415 (745.163) 171 0.207 2.845 (7.338)	0.156 e border within th -0.661 (1.093) 171 0.460 -1.374 (1.063) 171 0.332 -227.342 (968.260) 171 0.184 2.908 (17.195)	e same canton 0.011 (0.366) (0.366) 0.30 -0.131 (0.241) 63 29 825.540 (665.563) 117 38 0.846 (3.899)	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)*** 820 0.045 -0.470 (0.329)	0.114 (0.058)** 820 0.273 0.148 (0.038)*** 820 0.424 80.589 (130.130) 820 0.669 -0.628 (0.417)	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426 68.073 (175.542) 820 0.070 -0.719 (0.483)	0.111 (0.038)** 82(55 0.16((0.031)** 66* 38 108.833 (127.495 433 22 0.004 (0.192 82(
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Treatment Obs. Cent. R-squ/Bandwidth	0.017 0.196 692 0.357 0.066 692 0.357 0.067 692 0.357 (0.017)*** 692 0.357 (0.017)*** 692 0.357 (0.026)** 692 0.357 (0.057)** 692 0.056 (0.057)** 692 0.056 (0.055) 692 0.056 (0.055) 692 0.056 (0.055) 692 0.056 (0.055) 692 0.056 (0.055) 693 0.056 (0.056) 693 0.056 (0.056) 0.656 (0.056) 0.656 0.556 0.557 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.557 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.556 0.557 0.556 0.556 0.556 0.556 0.556 0.556 0.557 0.556 0.556 0.557 0.557 0.556 0.557 0.	0.159 (0.041)*** 692 0.359 0.255 (0.026)** 692 0.538 231.762 (65.764)** 692 0.538 231.762 (65.764)** (692 0.094	0.104 (0.056)* 692 0.362 0.362 0.363 (0.36)** 692 0.538 188.088 (90.023)** 692 0.995 -0.326 (0.848) 689	All 0.177 (0.034)*** (0.023)*** 0.203 (0.023)*** 0.203 (0.023)** 536 35 158.379 (85.340)* (85.340)* (0.310) 689	0.151 regions to left any -0.751 (1.092) 171 0.418 -1.150 (0.994) -516.862 (1041.968) 171 -0.020 5.563 (7.086) 163	0.156 0.334 0.334 0.831) 171 0.513 0.6631 171 0.563 82.415 (745.163) 177 0.207 2.845 (7.338) 163	0.156 e border within th -0.661 (1.033) 1771 0.460 -1.374 (1.063) 1771 0.332 -227.342 (968.262) 1771 0.184 2.906 (17.195) 163	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) (0.241) 63 29 825.540 (665.563) 17 38 0.846 (3.899) 118	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)** 820 0.445 820 0.045 -0.470 (0.329) 820	0.114 (0.058)** 820 0.273 0.148 (0.038)** 820 0.424 80.589 (130.130) 820 0.669 -0.628 (0.417) 820	0.033 (0.078) 820 0.274 0.145 (0.052)*** 0.426 68.073 (175.542) 820 0.426 68.073 (175.542) 820 0.070	0.111 (0.038)** 82(55 0.16((0.031)** 66* 38 108.833 (127.495 433 22 0.004 (0.192 82(
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Umber of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value Treatment Obs. Cent. R-squ/Bandwidth Log unit value	0.017 0.196 (0.029)*** 0.206 0.206 (0.077)*** 622 0.357 (0.276) 63.373 (42.789) 663.373 (42.789) 662 0.054 0.299 0.054	0.159 (0.041)*** 632 0.359 0.195 (0.028)*** 632 0.538 231.762 (65.764)*** 692 0.094 -0.167 (0.722) 689 0.037	0,104 (0.056); 692 0,362 0,362 0,362 0,362 0,362 0,538 188,088 (90,023); 692 0,095 -0,326 0,095 -0,326 689 0,036	All 0.177 (0.0347 521 33 0.203 (0.023)** 536 35 158.379 (05.340) 25 -0.046 (0.310) 689 50	0.151 183005 to left any 40.751 1020 1071 0.418 -1.150 (0.994) 1771 0.369 -616.862 (1041.968) 1771 -0.020 5.563 7(7.066) 163 0.035	0.156 0.156 0.156 0.334 0.334 0.413 0.513 0.513 0.603 0.671) 171 0.553 82.415 (745.163) 177 0.207 2.845 (7.338) 163 0.083	0.156 9 border within II -0.661 (1.093) 1.103 -1.374 (1.063) 1.771 0.460 -1.374 (1.063) 1.771 0.332 -227.342 (968.260) 1.771 0.184 2.908 (17.195) 163 0.084	e same canton 0.011 (0.369 64 30 -0.131 (0.241) 63 29 825.540 (865.540 117 38 0.846 (3.899) 118 39	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 325.074 (82.834)** 820 0.045 -0.470 (0.329) 820 0.037	0.114 (0.058)** 820 0.273 0.148 (0.038)** 820 0.424 80.589 (130.130) 820 0.424 (130.130) 820 0.069 -0.658 0.069 -0.647 (0.477) 820 0.041	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.428 68.073 (175.542) 820 0.428 820 0.070 -0.719 (0.43) 820 0.043	0.111 (0.038)** 822 (0.031)** 66' 38 108.833 (127.495 433 24 0.000 (0.192 820 50
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value Treatment Obs. Cent. R-squ/Bandwidth	0.017 0.026)*** 0.026)*** 0.357 0.206 (0.07)*** 0.357 0.206 (0.07)*** 0.357 (42.789) 68.373 (42.789) 0.64 0.299 0.656) 689 0.040 -0.375	0.159 (0.041)*** 692 0.359 0.359 0.538 (0.026)*** 692 0.538 231.762 (65.764)*** 692 0.94 -0.167 (0.722) 0.94 -0.167 (0.722) 0.037	0, 104 (0.056)* 692 0.362 0.184 (0.036)** 692 0.533 188.088 692 0.095 -0.326 (0.848) 0.036	All 0.177 (0.034)*** 521 33 0.203 (0.223)** (0.223)** (0.223)** 536 535 535 535 535 535 (0.5340)* (0.5340)* (0.310) 689 50 50 -0.177	0.151 regions to left any 100000 (10000) 1100000 1100000 1100000 1100000 11000000 1100000 1100000 1100000 1100000	0.156 0.156 0.0314 0.0311 0.0311 0.0311 0.0513 0.6711 0.563 0.6711 0.563 0.207 2.845 (745.163) 0.207 2.845 (7.338) 163 0.083 1.319	0.156 0.156 0.0661 (1.093) 177 0.460 -1.374 (1.063) 177 0.332 -227.342 (968.260) 171 0.184 2.908 (17.195) 163 0.084 2.337	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.389) 1118 39 -2.032	0,108 (0.039)*** 820 0.272 0.160 (0.024)*** 820 0.45 820 0.45 0.45 0.045 0.045	0.114 (0.059)** 820 0.273 (0.038)*** (0.038)*** 820 0.424 80.589 (0.417) 820 0.062 (0.417) 820 0.041	0.033 (0.078) 820 0.274 (0.052)*** (0.052)*** (0.052)*** (0.052)** (0.052)** (0.052)** (0.052)** (0.052)** (0.052)** (0.052)** (0.053) (0.053)* (0.053)* (0.053)* (0.053)* (0.053)* (0.053)* (0.053)* (0.053)* (0.076)* (0.052)** (0	0.11ft (0.038)** 8225 50 0.16(((0.031)** 66' 33 108.833 (127.495 433 (127.495 433 24 0.000 (0.192 822 822 55
Value share Treatment Obs. Cent. R-squ/Bandwidth Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Ceg unit value Treatment Obs. Cent. R-squ/Bandwidth Ceg unit value Treatment Obs. Cent. R-squ/Bandwidth	0.017 0.196 (0.029)*** 0.357 0.206 (0.077)*** 62 0.357 (0.789) 63.373 (42.789) 682 0.064 0.299 0.040 0.4000 0.4000 0.400 0.40	0.159 (0.041)*** 692 0.359 0.195 (0.028)*** 692 0.538 231.762 (65.764)*** 692 0.094 -0.167 (0.722) 689 0.037 -0.225 (0.576)	0,104 (0.056) 692 0,362 0,362 0,362 0,362 0,362 0,362 0,368 692 0,095 -0,326 689 0,036 -0,326 689 0,036	All 0.177* (0.0347* 521 33 0.203 (0.023)** 536 35 158.379 (05.340) 25 -0.046 (0.310) 689 50 -0.177 (0.225)	0.151 183005 to left any 40.751 1022) 1071 0.418 -1.150 (0.994) 1771 0.369 -616.862 (1041.968) 1706 163 0.035 1.766 (6.527)	0.156 0.156 0.354 0.334 0.4311 0.513 0.603 0.671) 171 0.563 82.415 (745.163) 177 0.207 2.845 (7.338) 163 0.683 1.319 (7.007)	0.156 9.border within II -0.661 (1.093) 1.1033 -1.374 (1.083) -1.374 (1.083) 1.771 0.332 -227.342 (966.2860) 1.771 0.184 2.908 (17.195) 163 0.084 2.337 (16.506)	e same canton 0.011 (0.369 64 30 -0.131 (0.241) (0.41) (0.41) (0.41) (0.5540 (865.540) (865.540) 117 38 0.846 (3.899) 118 39 -2.032 (1.520)	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 205.074 (82.834)** 820 0.045 -0.450 (0.324)** -0.650 0.037	0,114 0,058)** 820 0,273 0,148 (0,038)** 820 0,424 80,589 0,424 80,589 0,424 80,069 0,424 0,069 0,070 0,0	0.033 (0.078) 820 0.274 0.145 (0.052)** 820 0.428 68.073 (175.542) 820 0.428 820 0.070 -0.719 (0.479) 0.043	0.116 (0.038)** 5(0.16((0.031)** 66* 33 (127.495 (127.495 (127.495 433 (127.495 433 (127.495 433 22 0.004 (0.192 5(-0.186
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Umber of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value Treatment Obs. Cent. R-squ/Bandwidth Log unit value	0.017 0.019 0.026)*** 0.357 0.206 (0.07)*** 68.373 (42.789) 68.373 (42.789) 69.064 0.299 (0.556) 689 0.040	0.159 (0.041)*** 692 0.359 0.359 0.538 (0.026)*** 692 0.538 231.762 (65.764)*** 692 0.94 -0.167 (0.722) 0.94 -0.167 (0.722) 0.037	0, 104 (0.056)* 692 0.362 0.184 (0.036)** 692 0.533 188.088 692 0.095 -0.326 (0.848) 0.036	All 0.177 (0.034)*** 521 33 0.203 (0.223)** (0.223)** (0.223)** 536 535 535 535 535 535 (0.5340)* (0.5340)* (0.310) 689 50 50 -0.177	0.151 regions to left any 100000 (10000) 1100000 1100000 1100000 1100000 11000000 1100000 1100000 1100000 1100000	0.156 0.156 0.0314 0.0311 0.0311 0.0311 0.0513 0.6711 0.563 0.6711 0.563 0.207 2.845 (745.163) 0.207 2.845 (7.338) 163 0.083 1.319	0.156 0.156 0.0661 (1.093) 177 0.460 -1.374 (1.063) 177 0.332 -227.342 (968.260) 171 0.184 2.908 (17.195) 163 0.084 2.337	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.389) 1118 39 -2.032	0,108 (0.039)*** 820 0.272 0.160 (0.024)*** 820 0.45 820 0.45 0.45 0.045 0.045	0.114 (0.059)** 820 0.273 (0.038)*** (0.038)*** 820 0.424 80.589 (0.417) 820 0.062 (0.417) 820 0.041	0.033 (0.078) 820 0.274 (0.052)*** (0.052)*** (0.052)*** (0.052)** (0.052)** (0.052)** (0.052)** (0.052)** (0.052)** (0.052)** (0.053) (0.053)* (0.053)* (0.053)* (0.053)* (0.053)* (0.053)* (0.053)* (0.053)* (0.076)* (0.052)** (0	0.111 (0.038)** 8225 50 (0.031)** 66 (0.031)** (0.132,455 433 (127,495 433 (127,495 433 (0.192,495 433 (0.192 822 822 55 -0.184 (0.192 79) 79
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs. Cent. R-squ/Bandwidth	0.017 0.026)*** 0.026)*** 0.357 0.205 (0.017)*** 68.373 (42.789) 68.373 (42.789) 68.373 (42.789) 0.556) 689 0.040 -0.375 (0.445) 689	0.159 (0.041)*** 692 0.359 0.195 (0.026)*** 692 0.538 231.762 (65.764)*** 692 0.094 -0.167 (0.722) 689 0.037 -0.225 (0.576) 689	0, 104 (0.056)* 692 0,362 0,184 (0.036)** 692 0,533 188,088 692 0,095 (0,849) 689 0,036 689 0,036 689 0,036	All 0.177 (0.034)*** 521 33 0.020 (0.023)** (0.023)** (0.023)** 158.379 (85.340)* (85.340)* (0.310) 689 50 -0.046 (0.310) 689 50 -0.045 -0.045	0.151 regions to left any 1.0921 1.0921 1.0921 1.150 0.4185 0.9941 1.151 0.369 -1.150 -1.150 -	0.156 1 ight of languag 0.334 (0.811) 171 0.513 -0.603 (0.671) 171 0.563 82.415 (745.163) 171 0.207 2.845 (7.338) 163 0.083 1.319 (7.007) 163	0.156 0.0661 (1.093) 177 0.460 -1.374 (1.063) 177 177 177 177 0.332 -227.342 (968.260) 170 0.184 2.908 (17.195) 163 0.084 2.337 (16.508) 163 163 163 163 163 163 163 163	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.241) (0.389) 1118 (3.899) 1118 39 -2.032 (1.520) 9 9 0	0,108 (0.039)*** 820 0.272 0,160 (0.024)*** 820 0,45 820 0,45 0,45 0,045 0,045 0,045 0,045 0,037 0,037	0.114 (0.059)** 820 0.273 0.128 (0.038)*** 0.424 80.589 0.424 80.589 0.424 0.059 0.059 0.052 0.0417 820 0.04117 820 0.04119 820	0.033 (0.078) 820 0.274 0.1274 (0.052)*** (0.052)*** 0.426 68.073 (175.542) 0.423 (175.542) 0.070 (0.433) 820 0.043 0.043	0.11 (0.038)** 5 0.16 (0.031)** 66 3 3 108.835 (127.495 43 2 0.00 (0.192 8 2 5 -0.18 (0.192 7 7
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs.	0.017 0.196 (0.028)*** 0.357 0.206 622 0.357 0.206 622 0.537 (0.779)** 68.373 (42.789) 682 0.064 0.299 0.040 0.375 (0.440 0.375 (0.440 0.375 0.040 0.299 0.040 0.299 0.040 0.299 0.040 0.299 0.040 0.299 0.040 0.299 0.040 0.299 0.040 0.299 0.040 0.040 0.057 0.040 0.057	0.159 (0.041)*** 692 0.359 0.195 (0.028)*** 692 0.538 231.762 (65.764)*** 692 0.094 -0.167 (0.722) 689 0.037 -0.225 (0.576) 689 0.029	0,104 (0,056) 692 0,362 0,362 0,362 0,362 0,362 0,368 692 0,023 692 0,025 -0,326 689 0,036 -0,655 (0,675) 0,029	All 0.177* (0.0347* 521 33 0.203 (0.2023* 536 35 158.379 (05.340) 401 25 -0.046 (0.310) 689 50 -0.1275 (0.227) 588 39	0.151 183005 10 inft any 40.751 1002) 11071 0.418 -1.150 (0.994) 1771 0.369 -615.862 (1041.968) 1771 -0.020 5.563 0.035 1.766 (6.627) 163 0.117	0.156 0.156 0.156 0.334 0.419 0.513 0.603 0.671) 171 0.563 82.415 (745.163) 177 0.207 2.945 (7.35) 0.683 1.319 (7.309) 7.009 163 0.126	0.156 0.156 0.0661 (1.003) 1.17 0.460 -1.374 (1.063) 1.771 0.332 -227.342 (968.260) 1.711 0.184 2.908 (17.195) 1.63 0.084 2.337 (16.537) 1.63 0.117	e same canton (0.366) 64 30 -0.131 (0.241) 63 29 825,540 (865,553) 117 38 0.846 (3.899) 118 39 -2.052 (1.520) 90 34	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 255.074 (82.834)** 820 0.045 -0.45 0.045 -0.459 0.037 -0.659 (0.329)** 820 0.037	0.114 0.158)** 820 0.273 0.148 (0.038)** 820 0.424 80.589 0.424 80.589 0.424 80.689 0.424 0.424 80.069 0.069 0.069 0.069 0.0417 820 0.041 0.0417 820 0.041 820 0.041 820 0.032 0.032	0.033 (0.078) 820 0.274 0.145 (0.052)*** 820 0.426 68.073 (175.542) 820 0.426 820 0.070 -0.719 (0.479) 0.043 -0.043 -0.043 0.043	0.111 (0.038)** 51 0.161 (0.031** 33 1008.83 (127.495* 433 2. 0.000 (0.192 822 822 51 -0.181 (0.192 79 79 4.
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs. Cent. R-squ/Bandwidth	0.017 0.019 0.026)*** 0.357 0.205 0.357 0.205 0.357 0.205 0.357 (0.017)*** 68.373 (42.789) 68.373 (42.789) 0.656) 689 0.040 -0.375 (0.445) 689 0.021 -0.013	0.159 (0.041)*** 652 0.359 0.195 (0.026)*** 692 0.538 231.762 (65.764)*** 692 0.094 -0.167 (0.722) 689 0.037 -0.225 (0.576) 689 0.029 1.036	0, 104 (0.056)* 692 0.362 0.184 (0.036)** 692 0.053* (90.023)* (90.023)* (90.023)* 0.095 -0.328 0.056 (0.676) 689 0.029 0.029	All 0.177 (0.034)*** 521 33 0.020 (0.023)** 536 536 536 (0.023)** (85.340)* (85.340)* (85.340)* (0.310) 689 650 (0.310) 689 650 (0.325) 588 39 0.027	0.151 regions to left any 1.0,051 1.1,092) 1.771 0.418 0.418 0.369 -1.150 (0.994) 1.771 0.369 -1.150 -0.020 -1.150 -0.020 -1.150 -0.020 -1.150 -0.020 -1.150 -0.020 -1.150 -0.020 -1.150	0.156 1 ight of language -0.334 (0.811) 171 -0.603 (0.671) 171 171 0.563 82.415 (745.163) 10.563 82.415 (745.163) 10.738) 10.207 2.845 (7.338) 163 0.083 1.319 (7.007) 163 0.126 -1.176	0.156 0.0661 0.0661 0.4660 -1.374 (1.083) 171 0.460 -1.374 (1.063) 177 0.332 -227.342 (968.260) 170 0.184 2.908 (1.195) 163 0.084 2.337 (16.508) 163 0.117 -6.594	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) (0.241) (0.241) (0.241) (0.241) 17 38 825.563) (865.563) 117 38 0.846 (3.899) 118 39 -2.032 (1.520) 90 34 -1.876	0,108 0,039)*** 820 0,272 0,160 (0,024)*** 820 0,419 325,074 (82,834)** (82,834)** 0,045 820 0,047 0,0329 820 0,0329	0.114 0.134 820 0.273 0.148 (0.038)*** 820 0.424 80.589 (130.130 (130.130 0.069 -0.628 (0.417) 820 0.0417 1.820 0.0417 0.0417 820 0.0417 820 0.0417 820 0.0417 820 0.0417 820 0.0417 820 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 0.0424 0.0427 0.0417 0.0424 0.0427 0.0427 0.0424 0.0427 0.0424 0.0427 0.0424 0.0427 0.0427 0.0424 0.0427 0.0427 0.0427 0.0427 0.0427 0.0427 0.0427 0.0447 0.0417 0.0428 0.0417 0.0425 0.0417 0.0417 0.0417 0.0417 0.0425 0.0417 0.0417 0.0417 0.0417 0.0425 0.0417 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.04555 0.0455 0.04555 0.04555 0.04555 0.04555 0.04555 0.045	0.033 (0.078) 820 0.274 0.145 (0.052)*** 0.426 68.073 0.426 68.073 (175.542) (175.542) 0.077 (0.423) 820 0.077 (0.423) 820 0.032	0.111 (0.038)** 50 0.16((0.031)** (0.031)** 108.833 (0.031)** 108.833 (0.127.495 (3.3 22 0.000 (0.192 55 (0.192 779 73 74 73 74 70 73 74 70 73 74 70 73 75 70 70 70 70 70 70 70 70 70 70 70 70 70
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs. Cent. R-squ/Bandwidth Log up availe per transaction Treatment Obs.	0.017 0.196 (0.028)*** 0.357 0.206 (0.077)*** 0.357 0.206 68.373 (42.789) 0.64 0.299 0.064 0.299 0.064 0.299 0.040 0.375 (0.445) 689 0.021 -0.375 (0.415) 0.299 0.040 -0.375 (0.445) 0.299 0.040 -0.375 (0.445) 0.299 0.040 -0.058 0.021 -0.013 (0.858) -0.013 -	0.159 (0.041)*** 692 0.359 0.195 (0.028)*** 692 0.538 231.762 (65.764)*** 692 0.094 -0.167 (0.722) 689 0.037 -0.225 (0.576) 689 0.029 -0.029	0,104 (0,056) 692 0,362 0,362 0,362 0,362 0,362 692 0,538 188,088 (90,023)** 692 0,095 -0,326 689 0,036 -0,655 (0,676) (6,675) 0,675 (0,676) (6,675) 0,029	All 0.177* (0.034)*** 521 33 0.203 (0.202)*** 536 35 158.379 (0.53.40)* 401 25 -0.046 (0.310) 689 50 -0.177 (0.277) (0.277) (0.277) (0.277) (0.366)	0.151 186005 10 infl any -0.751 (1.002) 1.150 0.418 -1.150 0.994) 1.771 0.369 -615.862 (1041.968) 1.765 0.035 1.765 (6.527) 163 0.035 1.65 (6.527) 163 0.117 -2.554 (11.291)	0.156 0.156 0.354 0.354 0.6311 0.513 0.603 0.6711 1771 0.563 82.415 (745.163) 1771 0.207 2.845 (7.359) 163 0.083 1.319 (7.007) 163 0.126 -1.176 (11.899)	0.156 0.156 0.0661 (1.003) 1.17 0.460 -1.374 (1.063) 1.77 0.332 -227.342 (968.260) 1.71 0.184 2.908 (17.185) 1.63 0.064 2.337 (16.506) 1.63 0.117 -6.537 (15.202) 1.63 0.117 -6.537 (15.202) 1.63 0.117 -6.537 (15.202) 1.63 0.117 -6.537 -6.54 -7.542 -7	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) 62 29 825,540 (865,554) 117 38 0.846 (3.899) 118 39 -2.052 (1.520) 90 34 -1.876 (2.523)	0.108 (0.036)*** 820 0.272 0.160 (0.024)*** 820 0.419 225.074 (82.834)** 820 0.045 -0.459 (0.329) 820 0.037 -0.650 (0.324)** 820 0.037 -0.654 0.026 -0.451	0,114 0,058)** 820 0,273 0,148 (0,038)** 820 0,424 80,589 0,424 80,589 0,424 80,589 0,424 80,069 0,069 -0,658 0,041 820 0,041 820 0,041 820 0,041 820 0,041 820 0,041 820 0,041 820 0,038 820 0,042 820 0,045 820 820 0,045 820 820 820 820 820 820 820 820	0.033 (0.078) 820 0.274 0.145 (0.052)** 820 0.426 68.073 (175.542) 820 0.426 820 0.476 820 0.070 -0.719 (0.479) 820 0.043 -0.043 0.043 -0.043 0.043	0.111 (0.08)*** 55 0.16((0.01)** 108.83 108.83 108.83 20 (127.495 433 20 0.000 (0.192 822 60.19 825 0.018(0.029 79 79 4; -0.366 (0.328)
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs.	0.017 0.019 0.026)*** 0.026)*** 0.026 0.037 0.026 0.017)*** 68.373 (42.789) 68.373 (42.789) 69.32 0.064 0.299 0.040 -0.375 (0.445) 689 0.021 -0.013	0.159 (0.041)*** 652 0.359 0.195 (0.026)*** 692 0.538 231.762 (65.764)*** 692 0.094 -0.167 (0.722) 689 0.037 -0.225 (0.576) 689 0.029 1.036	0, 104 (0.056)* 692 0.362 0.184 (0.036)** 692 0.053* (90.023)* (90.023)* (90.023)* 0.095 -0.328 0.056 (0.676) 689 0.029 0.029	All 0.177 (0.034)*** 521 33 0.020 (0.023)** 536 536 536 (0.023)** (85.340)* (85.340)* (85.340)* (0.310) 689 650 (0.310) 689 650 (0.325) 588 39 0.027	0.151 regions to left any 1.0,051 1.1,092) 1.771 0.418 0.418 0.369 -1.150 (0.994) 1.771 0.369 -1.150 -0.020 -1.150 -0.020 -1.150 -0.020 -1.150 -0.020 -1.150 -0.020 -1.150 -0.020 -1.150	0.156 1 ight of language -0.334 (0.811) 171 -0.603 (0.671) 171 171 0.563 82.415 (745.163) 10.563 82.415 (745.163) 10.738) 10.207 2.845 (7.338) 163 0.083 1.319 (7.007) 163 0.126 -1.176	0.156 0.0661 0.0661 0.4660 -1.374 (1.083) 171 0.460 -1.374 (1.063) 177 0.332 -227.342 (968.260) 170 0.184 2.908 (1.195) 163 0.084 2.337 (16.508) 163 0.117 -6.594	e same canton 0.011 (0.366) 64 30 -0.131 (0.241) (0.241) (0.241) (0.241) (0.241) 17 38 825.563) (865.563) 117 38 0.846 (3.899) 118 39 -2.032 (1.520) 90 34 -1.876	0,108 0,039)*** 820 0,272 0,160 (0,024)*** 820 0,419 325,074 (82,834)** (82,834)** 0,045 820 0,047 0,0329 820 0,0329	0.114 0.134 820 0.273 0.148 (0.038)*** 820 0.424 80.589 (130.130 (130.130 0.069 -0.628 (0.417) 820 0.0417 1.820 0.0417 0.0417 820 0.0417 820 0.0417 820 0.0417 820 0.0417 820 0.0417 820 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 820 0.0424 0.0417 0.0424 0.0427 0.0417 0.0424 0.0427 0.0427 0.0424 0.0427 0.0424 0.0427 0.0424 0.0427 0.0427 0.0424 0.0427 0.0427 0.0427 0.0427 0.0427 0.0427 0.0427 0.0447 0.0417 0.0428 0.0417 0.0425 0.0417 0.0417 0.0417 0.0417 0.0425 0.0417 0.0417 0.0417 0.0417 0.0425 0.0417 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.0425 0.04555 0.0455 0.04555 0.04555 0.04555 0.04555 0.04555 0.045	0.033 (0.078) 820 0.274 0.145 (0.052)*** 0.426 68.073 0.426 68.073 (175.542) (175.542) 0.077 (0.423) 820 0.077 (0.423) 820 0.032	0.116 (0.038)*** 820 50 (0.031)*** 661 38 108.837 (127.495) 437

Table 14: LATE estimates of the impact of common language on imports from common language speaking bordering countries to Switzerland for specific native languages (using road distance to the language border)

Table 15: LATE estimates of the impact of common language on imports from common language speaking bordering countries to Switzerland in different quartiles of the distribution of the dependent variables (using road distance to the language border)

effect with parametric polynomial or nonparametric control function	1st order (1)	1st Quartile 2nd order 3rd (2)	order	Nonparam. (4)	1st order All regiona (5)	2nd order 3rd 2nd order 3rd al units within the (6)	To a Quartile 2nd Quartile storder 2nd Quartile All agoral units within the worr espective anguage districts (5) (7) (9) (9) (9)	Nonparam. Sective langue (8)		in variable 3rd Quartile 2nd order 3rd order Nonpar to left and right of language border (10) (11)	artile 3rd order t of language (11)	Nonparam. s border (12)	1st order (13)	4th Quartile 2nd order 3rd (14)	ırtile 3rd order Nonparam. (15) (16)	Vonparam. (16)
Value share Treatment Obs. Cent. R-squ./Bandwidth	0.332 0.021)*** 2880 0.533	0.311 0.315)*** 2880 0.533	0.261 0.261 (0.050)*** 2880 0.530	0.308 (0.030)*** 2212 40	0.315 0.315 (0.021)*** 2897 0.520	0.310 (0.036)*** 2897 0.521	0.278 (0.051)*** 2897 0.519	0.295 0.295 (0.031)*** 2332 42	0.366 (0.021)*** 2889 0.529	0.338 (0.035)*** 2889 0.528	0.315 0.049)*** 2889 0.527	0.343 (0.033)*** 2183 40		0.257 (0.037)*** 2904 0.455	0.174 (0.053)*** 2904 0.451	0.260 (0.033)*** 2251 41
Transactions share	0.329	0.297	0.250	0.299	0.313	0.296	0.255	0.285	0.362	0.335	0.311	0.339		0.276	0.226	0.282
Treatment	(0.019)***	(0.032)***	(0.046)***	(0.029)***	(0.021)***	(0.036)***	(0.051)***	(0.031)***	(0.021)***	(0.035)***	(0.049)***	(0.033)***		(0.034)***	(0.048)***	(0.033)***
Obs.	2880	2880	2880	2148	2897	2897	2897	2328	2889	2889	2889	2204		2904	2904	2031
Cent. R-squ./Bandwidth	0.557	0.556	0.554	39	0.518	0.518	0.516	42	0.525	0.525	0.523	40		0.506	0.504	36
Number of products (HS8 tariff lines) Treatment (14,11) Obs. Cent. R-squ/Bandwidth 0	ff lines) 47.658 (14.112)*** 2880 0.055	1.119 (23.425) 2880 0.061	13.886 (33.440) 2880 0.061	25.579 (19.713) 1256 23	100.128 (23.448)*** 2897 0.066	28.675 (38.961) 2897 0.072	37.569 (55.142) 2897 0.072	52.286 (32.573) 1585 28	103.729 (25.958)*** 2889 0.065	40.147 (42.826) 2889 0.069	46.056 (60.089) 2889 0.069	50.373 (35.193) - 1671 30	73.068 (20.920)*** 2904 0.055	24.008 (34.709) 2904 0.059	30.058 (48.957) 2904 0.059	31.549 (26.773) 1732 31
Log unit value	0.209	0.149	0.145	0.164	0.060	0.126	0.173	0.032	0.126	0.194	0.202	0.061	0.082	0.006	-0.327	-0.067
Treatment	(0.069)***	(0.115)	(0.164)	(0.086)*	(0.067)	(0.111)	(0.158)	(0.070)	(0.121)	(0.200)	(0.281)	(0.119)	(0.183)	(0.304)	(0.430)	(0.211)
Obs.	2866	2866	2866	2455	2883	2883	2883	2755	2875	2875	2875	2755	2888	2888	2888	2755
Cent. R-squ/Bandwidth	0.037	0.038	0.038	44	0.002	0.005	0.005	50	0.029	0.032	0.032	50	0.032	0.031	0.031	50
Log value per transaction	0.143	0.195	0.196	0.145	-0.019	0.016	0.039	0.024	0.001	0.001	-0.005	-0.004	-3.77E-04	-0.034	-0.087	-0.016
Treatment	(0.038)***	(0.063)***	(0.091)**	(0.042)***	(0.016)	(0.027)	(0.039)	(0.023)	(0.018)	(0.030)	(0.041)	(0.017)	(0.059)	(0.098)	(0.139)	(0.063)
Obs.	2866	2866	2866	2299	2883	2883	2883	1742	2875	2875	2875	2755	2890	2890	2890	2755
Cent. R-squ./Bandwidth	0.088	0.09	0.09	41	0.014	0.014	0.014	31	0.049	0.049	0.049	50	0.015	0.016	0.016	50
Log quantity per transaction	-0.021	0.136	0.191	0.000	0.115	-0.028	-0.263	0.025	0.426	0.227	0.196	0.234	-0.041	-0.233	-0.111	-0.108
Treatment	(0.095)	(0.159)	(0.227)	(0.132)	(0.135)	(0.225)	(0.319)	(0.150)	(0.160)***	(0.265)	(0.372)	(0.219)	(0.125)	(0.208)	(0.294)	(0.158)
Obs.	2866	2866	2866	2326	2883	2883	2883	2672	2875	2875	2875	2074	2888	2888	2888	2185
Cent. R-squ./Bandwidth	0.008	0.012	0.012	42	0.050	0.050	0.049	48	0.060	0.061	0.061	37	0.003	0.004	0.005	40
Value share Treatment Obs. Cent. R-squ./Bandwidth	0.316 (0.025)*** 1592 0.604	0.309 (0.040)*** 1592 0.604	0.344 (0.055)*** 1592 0.606	0.317 (0.039)*** 1123	0.284 (0.026)*** 1594 0.595	All regions 0.302 (0.042)*** 1594 0.596	s to left and ri 0.361 (0.057)*** 1594 0.600	ight of langua 0.310 (0.045)*** 992 29	age border wit 0.329 (0.027)*** 1594 0.553	hin the same 0.336 (0.043)*** 1594 0.553	canton 0.405 (0.057)*** 1594 0.558	0.356 (0.043)*** 1130 34	0.248 (0.029)*** 1603 0.467	0.233 (0.046)*** 1603 0.466	0.198 (0.062)*** 1603 0.465	0.240 (0.039)*** 1387 44
Transactions share	0.307	0.280	0.320	0.298	0.283	0.286	0.333	0.289	0.327	0.331	0.402	0.356	0.284	0.277	0.284	0.288
Treatment	(0.024)***	(0.038)***	(0.051)***	(0.036)***	(0.026)***	(0.042)***	(0.057)***	(0.043)***	(0.027)***	(0.042)***	(0.057)***	(0.043)***	(0.026)***	(0.042)***	(0.057)***	(0.038)***
Obs.	1592	1592	1592	1181	1594	1594	1594	1040	1594	1594	1594	1104	1603	1603	1603	1281
Cent. R-squ./Bandwidth	0.617	0.616	0.619	36	0.597	0.597	0.600	31	0.562	0.562	0.567	33	0.494	0.494	0.495	40
Number of products (HS8 tariff lines) Treatment (14.216 Obs. Cent. R-squ/Bandwidth 0.	ff lines) 47.881 (14.216)*** 1592 0.062	10.646 (22.405) 1592 0.069	32.969 (30.817) 1592 0.069	26.301 (21.583) 1004 30	100.606 (25.295)*** 1594 0.078	44.450 (39.999) 1594 0.084	66.967 (54.450) 1594 0.083	60.276 (37.621) 1096 33	104.977 (27.951)*** 1594 0.066	55.425 (43.964) 1594 0.069	75.836 (59.321) 1594 0.069	65.752 (40.696) 1130 34	75.012 (21.908)*** 1603 0.052	37.494 (34.560) 1603 0.056	52.228 (46.847) 1603 0.055	45.171 (30.842) 1139 35
Log unit value	0.247	0.140	0.175	0.161	0.060	0.132	0.237	0.017	0.146	0.211	0.145	0.052	-0.058	-0.165	-0.280	-0.158
Treatment	(0.092)***	(0.146)	(0.201)	(0.109)	(0.087)	(0.138)	(0.189)	(0.092)	(0.151)	(0.238)	(0.322)	(0.167)	(0.233)	(0.368)	(0.500)	(0.267)
Obs.	1581	1581	1581	1309	1583	1583	1583	1509	1583	1583	1583	1367	1590	1590	1590	1509
Cent. R-squ./Bandwidth	0.049	0.048	0.049	41	0.002	0.004	0.005	50	0.055	0.057	0.057	43	0.061	0.061	0.062	50
Log value per transaction	0.156	0.174	0.233	0.134	-0.024	0.024	0.036	0.040	-0.013	0.002	0.01	-0.007	-8.80E-02	-0.133	-0.235	-0.097
Treatment	(0.050)***	(0.079)**	(0.109)**	(0.047)***	(0.022)	(0.035)	(0.047)	(0.028)	(0.024)	(0.038)	(0.051)	(0.023)	(0.076)	(0.121)	(0.164)	(0.082)
Obs.	1581	1581	1581	1383	1583	1583	1583	982	1583	1583	1583	1442	1592	1592	1592	1509
Cent. R-squ./Bandwidth	0.097	0.098	0.101	44	0.013	0.015	0.015	29	0.039	0.043	0.044	46	0.037	0.037	0.036	50
Log quantity per transaction Treatment Obs. Cent. R-sou /Bandwidth	-0.079 (0.121) 1581 0.022	0.056 (0.190) 1581 0.027	0.092 (0.263) 1581	-0.064 (0.163) 1353	-0.023 (0.166) 1583 0.045	-0.374 (0.263) 1583 0.046	-0.275 (0.359) 1583 0.047	-0.212 (0.216) 1056	0.303 (0.208) 1583 0.051	0.195 (0.329) 1583 0.051	0.327 (0.444) 1583 0.053	0.232 (0.268) 1061	-0.034 (0.160) 1590 0.004	-0.113 (0.253) 1590 0.005	0.086 (0.344) 1590 0.008	-0.054 (0.181) 1467 47

Table 16: Sensitivity of LATE estimates of the impact of common language on imports from common-language speaking bordering countries to Switzerland to threshold variation at 5 km from baseline threshold (using road distance to the language border)

Including distance to external border 1st order 2nd order 3rd order		gression 3rd order	Baseline re 2nd order	1st order	Common native language effect with parametric
e districts to left and right of language border	ctive language districts to left ar	within the two respec	All regions		polynomial or nonparametric
(5) (6) (7)		(3)	(2)	(1)	control function
					/alue share
0.250 0.282 0.288		0.283	0.271	0.235	Treatment
(0.018)*** (0.028)*** (0.038)*** 2682 2682 2682 2682		(0.039)*** 2682	(0.029)*** 2682	(0.018)*** 2682	Obs
0.410 0.412 0.413		0.367	0.366	0.363	Cent. R-squ./Bandwidth
0.410 0.412 0.413	33 0.410	0.367	0.300	0.363	Cent. R-squ./Bandwidth
					Transactions share
0.243 0.250 0.251	0.232 0.243	0.246	0.240	0.229	Treatment
(0.014)*** (0.022)*** (0.029)***	(0.017)*** (0.014)***	(0.031)***	(0.023)***	(0.015)***	
2682 2682 2682		2682	2682	2682	Obs.
0.495 0.496 0.496	45 0.495	0.438	0.437	0.436	Cent. R-squ./Bandwidth
				f lines)	Number of products (HS8 tari
217.446 123.701 98.633	127.911 217.446	89.432	119.867	221.804	Treatment
(39.435)*** (62.034)** (83.462)		(83.597)	(62.291)*	(39.593)***	ricament
2682 2682 2682		2682	2682	2682	Obs.
0.083 0.087 0.087		0.083	0.082	0.079	Cent. R-squ./Bandwidth
					Log unit value
0.193 0.344 0.362		0.329	0.322	0.192	Treatment
(0.104)* (0.163)** (0.220)*		(0.221)	(0.164)*	(0.104)*	Oha
2669 2669 2669 0.022 0.023 0.024		2669 0.013	2669 0.013	2669 0.012	Obs. Cent. R-squ./Bandwidth
0.022 0.023 0.024	55 0.022	0.015	0.015	0.012	Cent. IX-squ./Danuwidth
					Log value per transaction
0.008 0.102 0.120		0.122	0.120	0.035	Treatment
(0.086) (0.135) (0.182)		(0.183)	(0.136)	(0.086)	
2669 2669 2669	2423 2669	2669	2669	2669	Obs.
0.011 0.012 0.012	40 0.011	0.003	0.003	0.002	Cent. R-squ./Bandwidth
			-0.047	0.137	Log quantity per transaction Treatment
0.064 0.088 0.037	0.019 0.064				
0.064 -0.088 -0.037		-0.035			ricatilent
(0.155) (0.244) (0.328)	(0.181) (0.155)	(0.330)	(0.246)	(0.156)	
	(0.181) (0.155) 2230 2669				Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022	(0.181) (0.155) 2230 2669 37 0.021	(0.330) 2669 0.005	(0.246) 2669 0.005	(0.156) 2669	Obs.
(0.155) (0.244) (0.328) 2669 2669 2669	(0.181) (0.155) 2230 2669 37 0.021	(0.330) 2669 0.005	(0.246) 2669 0.005	(0.156) 2669	Obs.
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022	(0.181) (0.155) 2230 2669 37 0.021 right of language border within t	(0.330) 2669 0.005	(0.246) 2669 0.005	(0.156) 2669	Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 0.046)***	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223	(0.330) 2669 0.005 Il regions to left and i	(0.246) 2669 0.005 A 0.261 (0.037)***	(0.156) 2669 0.004	Obs. Cent. R-squ./Bandwidth Value share
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.223 0.258 0.266 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422	(0.330) 2669 0.005 Il regions to left and l 0.303 (0.048)*** 1422	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422	(0.156) 2669 0.004 0.206 (0.025)*** 1422	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs.
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 0.046)***	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422	(0.330) 2669 0.005 Il regions to left and r 0.303 (0.048)***	(0.246) 2669 0.005 A 0.261 (0.037)***	(0.156) 2669 0.004 0.206 (0.025)***	Obs. Cent. R-squ./Bandwidth Value share Treatment
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.223 0.258 0.266 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422	(0.330) 2669 0.005 Il regions to left and l 0.303 (0.048)*** 1422	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422	(0.156) 2669 0.004 0.206 (0.025)*** 1422	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.024 0.026 0.024 0.023 0.258 0.266 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 0.435 0.437 0.440	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.325 0.223 (0.324)*** (0.024)*** 984 1422 29 0.435	(0.330) 2669 0.005 Il regions to left and r 0.303 (0.048)*** 1422 0.399	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 0.268 0.268 0.268	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220	(0.330) 2669 0.005 Il regions to left and r 0.303 (0.048)*** 1422 0.399 0.283	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 0.225	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs.
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 0.035)***	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)***	(0.330) 2669 0.005 Il regions to left and I 0.303 (0.048)*** 1422 0.399 0.283 (0.037)***	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 0.225 (0.029)***	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)***	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 0.268 0.268 0.268	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)** 1308 1422	(0.330) 2669 0.005 Il regions to left and r 0.303 (0.048)*** 1422 0.399 0.283	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 0.225	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.266 0.024/*** (0.036)*** (0.046)*** 1422 1422 1422 1422 0.435 0.220 0.222 0.268 0.266 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 1422 1422	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)** 1308 1422	(0.330) 2669 0.005 Il regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422	(0.246) 2669 0.005 0.261 (0.037)*** 1422 0.395 0.225 (0.029)*** 1422	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 0.436 0.220 0.222 0.268 (0.046)*** (0.24)*** (0.036)*** (0.046)*** 1422 1422 0.422 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534	(0.330) 2669 0.005 Il regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.029)*** 1422 0.481	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines)	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 0.435 0.220 0.222 0.268 (0.018)*** (0.201 0.020 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 0.534 0.534 0.539 0.539 219.732 136.589 163.840	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732	(0.330) 2669 0.005 Il regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.029)*** 1422 0.481 139.645	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 gge border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539 0.539 219.732 136.589 163.840 (43.336)*** (65.865)** (85.410)* 163.840 163.840	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)***	(0.330) 2669 0.005 11 regions to left and I 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)**	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 0.225 (0.029)*** 1422 0.481 139.645 (66.302)**	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 20.251 (43.652)***	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Traasctions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarith Treatment
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 (0.034)*** (0.024)*** 984 1422 29 0.435 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422	(0.330) 2669 0.005 11 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.029)*** 1422 0.481 139.645 (66.302)** 1422	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarit Treatment Obs.
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 gge border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539 0.539 0.539 163.840 (43.336)*** (65.865)** (85.410)* 163.840 163.840	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 (0.034)*** (0.024)*** 984 1422 29 0.435 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422	(0.330) 2669 0.005 11 regions to left and I 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)**	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 0.225 (0.029)*** 1422 0.481 139.645 (66.302)**	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 20.251 (43.652)***	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Traasctions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarith Treatment
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 (0.034)*** (0.024)*** 984 1422 29 0.435 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422	(0.330) 2669 0.005 11 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.029)*** 1422 0.481 139.645 (66.302)** 1422	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (4.3.36)*** 1026 1422 31 0.101	(0.330) 2669 0.005 11 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.029)*** 1422 0.481 139.645 (66.302)** 1422	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539 219.732 136.589 163.840 (43.336)*** (65.865)** (68.410)* 1422 1422 1422 0.101 0.104 0.104	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.386 0.178	(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.092	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.225 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.990	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarit Treatment Obs. Cent. R-squ./Bandwidth Log unit value
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539 219.732 136.589 163.840 (43.336)*** (65.865)** (85.410)* 1422 1422 1422 0.101 0.104 0.104	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.386 0.178 (0.228)* (0.131)	(0.330) 2669 0.005 1 regions to left and i 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 0.225 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.092	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarit Treatment Obs. Cent. R-squ./Bandwidth Log unit value
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 0.534 0.534 0.539 219.732 136.589 163.840 (43.336)*** (65.865)** (65.410)* 1422 1422 0.101 0.104 0.104 0.104 0.178 0.421 0.427 0.257)*	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 (0.024)*** (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.386 0.178 (0.228)* (0.131) 1028 1412	(0.330) 2669 0.005 11 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500 (0.258)*	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 0.225 (0.029)** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)**	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151 (0.132)	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539 219.732 136.589 163.840 (43.336)*** (65.865)** 163.840 (43.336)*** 0.104 0.104 0.101 0.104 0.104 0.178 0.421 0.467 (0.131) (0.199)** (0.257)* 1412 1412 1412	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 (0.024)*** (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.386 0.178 (0.228)* (0.131) 1028 1412	(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.992 0.500 (0.258)* 1412	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 0.225 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)**	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151 (0.132) 1412	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.223 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539 219.732 136.589 163.840 (43.336)*** (65.865)** (85.410)* 1422 1422 1422 0.101 0.104 0.104 (0.178) 0.421 0.467 (0.131) (0.199)** (0.257)* 1412 1412 1412 0.040 0.042 0.048	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.386 0.178 (0.228)* (0.131) 1028 1412 31 0.040	(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.489 0.092 0.500 (0.258)* 1412 0.033	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.225 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)** 1412 0.027	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.479 f lines) 209.251 (43.652)** 1422 0.090	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 0.435 0.220 0.222 0.268 (0.036)*** (0.18)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539 219.732 136.589 163.840 (43.336)*** (65.865)** (85.410)* 1422 1422 1422 0.101 0.104 0.104 0.178 0.421 0.467 (0.131) (0.199)** (0.257)* 1412 1412 1412 0.040 0.042 0.048 -0.071 0.075 -0.014	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.386 0.178 (0.228)* (0.131) 1028 1412 31 0.040 0.010 -0.071	(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500 (0.258)* 1412 0.033 -0.034	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 0.225 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)** 1412 0.027 0.073	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151 (0.132) 1412 0.024 -0.051	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarli Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539 219.732 136.589 163.840 (43.336)*** (65.865)** (68.410)* 1422 1422 1422 0.101 0.104 0.104 0.178 0.421 0.467 (0.131) (0.199)** (0.257)* 1412 1412 1412 0.040 0.042 0.048 -0.071 0.075 -0.014 (0.115) (0.175) (0.227)	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.386 0.178 (0.228)* (0.131) 1028 1412 31 0.040 0.010 -0.071 (0.134) (0.115)	(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500 (0.258)* 1412 0.033 -0.034 (0.226)	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.229)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)** 1412 0.027 0.073 (0.176)	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.990 0.151 (0.132) 1412 0.024 -0.051 (0.116)	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 0.435 0.220 0.222 0.268 (0.036)*** (0.18)*** (0.027)*** (0.035)*** 1422 1422 1422 1422 0.534 0.534 0.539 163.840 (43.336)*** (65.865)** (85.410)* 1422 0.101 0.104 0.104 0.104 0.178 0.421 0.467 (0.257)* 1412 1412 1412 1412 0.040 0.042 0.048 0.048 -0.071 0.075 -0.014 0.048	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.286 0.178 (0.228)* (0.131) 1028 1412 31 0.040 0.010 -0.071 (0.134) (0.154)	(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500 (0.258)* 1412 0.033 -0.034	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 0.225 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)** 1412 0.027 0.073	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151 (0.132) 1412 0.024 -0.051	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539 219.732 136.589 163.840 (43.336)*** (65.865)** (85.410)* 1422 1422 1422 0.101 0.104 0.104 0.178 0.421 0.467 (0.131) (0.199)** (0.257)* 1412 1412 1412 0.040 0.042 0.048 -0.071 0.075 -0.014 (0.115) (0.175) (0.227) 1412 <td< td=""><td>(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.286 0.178 (0.228)* (0.131) 1028 1412 31 0.040 0.010 -0.071 (0.134) (0.154)</td><td>(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500 (0.258)* 1412 0.033</td><td>(0.246) 2669 0.005 0.005 0.261 (0.037)*** 1422 0.395 0.225 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)** 1412 0.073 (0.176) 1412</td><td>(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151 (0.132) 1412 0.024 -0.051 (0.116) (0.116)</td><td>Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth</td></td<>	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.286 0.178 (0.228)* (0.131) 1028 1412 31 0.040 0.010 -0.071 (0.134) (0.154)	(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500 (0.258)* 1412 0.033	(0.246) 2669 0.005 0.005 0.261 (0.037)*** 1422 0.395 0.225 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)** 1412 0.073 (0.176) 1412	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151 (0.132) 1412 0.024 -0.051 (0.116) (0.116)	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth
$\begin{array}{c ccccc} (0.155) & (0.244) & (0.328) \\ 2669 & 2669 & 2669 \\ 0.021 & 0.022 & 0.022 \\ \hline \end{tabular}$	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.041)*** (0.018)*** 1308 1422 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.386 0.178 (0.228)* (0.131) 1028 1412 31 0.040 0.010 -0.071 0.134) 10.261 1412 31 36 0.010 -0.071 0.014	(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500 (0.258)* 1412 0.033 -0.034 (0.226) 1412 0.010	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)** 1412 0.027 0.073 (0.176) 1412 0.009	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151 (0.132) 1412 0.024 -0.051 (0.116) 1412 0.006	Obs. Cent. R-squ/Bandwidth Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs. Cent. R-squ/Bandwidth
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** (0.024)*** 984 1422 29 29 0.435 0.220 (0.024)*** (0.018)*** 1038 1026 1422 40 1038 1422 40 40 0.534 0.534 158.121 219.732 (52.187)*** 1026 1422 31 0.101 0.386 0.178 (0.228)* (0.131) 1028 1028 1412 31 31 0.040 0.010 0.010 -0.071 (0.134) (0.134) (0.15) 1194 1194 1412 36 36 0.010 -0.138	(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500 (0.258)* 1412 0.033 -0.034 (0.226) 1412 0.010 -0.197	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)** 1412 0.027 0.073 (0.176) 1412 0.009 -0.208	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151 (0.152) 1412 0.024 -0.051 (0.116) 1412 0.006 -0.052	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth
(0.155) (0.244) (0.328) 2669 2669 2669 0.021 0.022 0.022 age border within the same canton 0.223 0.258 0.286 (0.024)*** (0.036)*** (0.046)*** 1422 1422 1422 1422 1422 0.435 0.437 0.440 0.220 0.222 0.268 (0.018)*** (0.027)*** (0.035)*** 1422 1422 1422 0.534 0.534 0.539 219.732 136.589 163.840 (43.336)*** (0.427)** (0.257)* 1412 1412 1412 0.101 0.104 0.104 0.178 0.421 0.467 (0.131) (0.199)** (0.257)* 1412 1412 1412 0.040 0.042 0.048 -0.071 0.075 -0.014 (0.115) (0.175) (0.227) 1412 1	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)*** 1308 1422 40 0.534 158.121 (219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.386 0.178 (0.228)* (0.131) 1028 1412 31 0.040 0.010 -0.071 (0.134) (0.115) 1194 1412 36 0.010 -0.138 -0.133 (0.214) (0.209)	(0.330) 2669 0.005 1 regions to left and 1 0.303 (0.048)*** 1422 0.399 0.283 (0.037)** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500 (0.258)* 1412 0.033 -0.034 (0.226) 1412 0.010 -0.197 (0.414)	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.225 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)** 1412 0.027 0.073 (0.176) 1412 0.009 0.073 (0.176) 1412 0.009	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151 (0.132) 1412 0.024 -0.051 (0.116) 1412 0.006 -0.055 (0.211)	Obs. Cent. R-squ./Bandwidth Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction Treatment
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	(0.181) (0.155) 2230 2669 37 0.021 right of language border within 1 0.255 0.223 (0.034)*** (0.024)*** 984 1422 29 0.435 0.216 0.220 (0.024)*** (0.018)** 1308 1422 40 0.534 158.121 219.732 (52.187)*** (43.336)*** 1026 1422 31 0.101 0.386 0.178 (0.228)* (0.131) 1028 1412 31 0.040 0.010 -0.071 (0.134) (0.115) 1194 1412 36 0.010 -0.138 -0.133 (0.214) (0.209) 1318 1412	(0.330) 2669 0.005 1 regions to left and r 0.303 (0.048)*** 1422 0.399 0.283 (0.037)*** 1422 0.489 175.946 (85.604)** 1422 0.092 0.500 (0.258)* 1412 0.033 -0.034 (0.226) 1412 0.010 -0.197	(0.246) 2669 0.005 A 0.261 (0.037)*** 1422 0.395 (0.029)*** 1422 0.481 139.645 (66.302)** 1422 0.092 0.434 (0.201)** 1412 0.027 0.073 (0.176) 1412 0.009 -0.208	(0.156) 2669 0.004 0.206 (0.025)*** 1422 0.389 0.205 (0.019)*** 1422 0.479 f lines) 209.251 (43.652)*** 1422 0.090 0.151 (0.152) 1412 0.024 -0.051 (0.116) 1412 0.006 -0.052	Obs. Cent. R-squ/Bandwidth Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tarif Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs. Cent. R-squ/Bandwidth

Table 17: Sensitivity of LATE estimates of the impact of common language on imports from common-language speaking bordering countries to Switzerland to threshold variation at 10 km from baseline threshold (using road distance to the language border)

Nonparam	external border 3rd order	luding distance to 2nd order	Incl 1st order	Nonparam.	egression 3rd order	2nd order	1st order	Common native language effect with parametric
nonparam.					within the two resp		I SE UTUEL	polynomial or nonparametric
(8)	(7)	(6)	(5)	(4)	(3)	(2)	(1)	control function
(0)	(1)	(0)	(0)	(4)	(0)	(2)	(1)	Value share
0.290	0.321	0.303	0.272	0.262	0.291	0.276	0.246	Treatment
(0.024)***	(0.036)***	(0.027)***	(0.018)***	(0.025)***	(0.038)***	(0.029)***	(0.019)***	
1889	2434	2434	2434	1889	2434	2434	2434	Obs.
31	0.425	0.424	0.422	31	0.377	0.376	0.373	Cent. R-squ./Bandwidth
								Transactions share
0.267	0.277	0.275	0.266	0.242	0.248	0.248	0.242	Treatment
(0.015)***	(0.028)***	(0.021)***	(0.014)***	(0.016)***	(0.030)***	(0.023)***	(0.015)***	
2421	2434	2434	2434	2421	2434	2434	2434	Obs.
40	0.514	0.514	0.513	40	0.451	0.451	0.450	Cent. R-squ./Bandwidth
								Number of products (HS8 tari
123.005	48.709	142.460	242.489	120.266	42.450	144.836	251.143	Treatment
(43.854)***	(81.445)	(61.990)**	(40.278)***	(42.847)***	(82.044)	(62.412)**	(40.368)***	
1462 24	2434 0.097	2434 0.093	2434 0.086	1462 24	2434 0.092	2434 0.088	2434 0.081	Obs.
24	0.097	0.093	0.086	24	0.092	0.088	0.081	Cent. R-squ./Bandwidth
								Log unit value
0.332	0.558	0.384	0.192	0.323	0.515	0.364	0.190	Treatment
(0.139)**	(0.209)***	(0.159)**	(0.103)*	(0.139)**	(0.211)**	(0.160)**	(0.103)*	
1828	2421	2421	2421	1828	2421	2421	2421	Obs.
30	0.025	0.024	0.021	30	0.014	0.013	0.010	Cent. R-squ./Bandwidth
								Log value per transaction
0.007	0.068	0.045	-0.027	0.060	0.120	0.099	0.026	Treatment
(0.096)	(0.177)	(0.134)	(0.087)	(0.095)	(0.179)	(0.136)	(0.087)	
2224	2421	2421	2421	2224	2421	2421	2421	Obs.
36	0.014	0.014	0.014	36	0.003	0.003	0.003	Cent. R-squ./Bandwidth
								Log quantity per transaction
-0.153	-0.394	-0.207	0.035	-0.031	-0.274	-0.079	0.163	Treatment
(0.191)	(0.320)	(0.243)	(0.157)	(0.191)	(0.325)	(0.246)	(0.159)	
1826	2421	2421	2421	1826	2421	2421	2421	Obs.
30	0.025	0.024	0.023	30	0.007	0.006	0.004	Cent. R-squ./Bandwidth
		ne same canton	e border within th	d right of languag	Il regions to left an	4		Value share
0.244	0.266	0.253	0.238	0.214	0.240	0.227	0.207	Treatment
(0.028)***	(0.046)***	(0.036)***	(0.024)***	(0.029)***	(0.048)***	(0.038)***	(0.025)***	
	1266	1266	1266	1215	1266	1266	1266	Obs.
1215	0.453	0.453	0.450	38	0.409	0.408	0.405	Cent. R-squ./Bandwidth
								Transactions share
1215							0.203	
1215	0.218	0.206	0.232	0.189	0.194	0.181	0.203	Treatment
1215 38	0.218 (0.034)***	0.206 (0.027)***	0.232 (0.018)***	0.189 (0.025)***	0.194 (0.037)***	0.181 (0.029)***	(0.019)***	
1215 38 0.219								
1215 38 0.219 (0.024)***	(0.034)***	(0.027)***	(0.018)***	(0.025)***	(0.037)***	(0.029)***	(0.019)***	Treatment
1215 38 0.219 (0.024)*** 1069	(0.034)*** 1266	(0.027)*** 1266	(0.018)*** 1266	(0.025)*** 1069	(0.037)*** 1266	(0.029)*** 1266	(0.019)*** 1266 0.498	Treatment Obs. Cent. R-squ./Bandwidth
1215 38 0.219 (0.024)*** 1069	(0.034)*** 1266	(0.027)*** 1266	(0.018)*** 1266	(0.025)*** 1069	(0.037)*** 1266	(0.029)*** 1266	(0.019)*** 1266 0.498	Treatment Obs. Cent. R-squ./Bandwidth
1215 38 0.219 (0.024)*** 1069 32	(0.034)*** 1266 0.556	(0.027)*** 1266 0.555	(0.018)*** 1266 0.555	(0.025)*** 1069 32	(0.037)*** 1266 0.498	(0.029)*** 1266 0.497	(0.019)*** 1266 0.498 ff lines)	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari
1215 38 0.219 (0.024)*** 1069 32 135.820	(0.034)*** 1266 0.556 94.238 (85.460) 1266	(0.027)*** 1266 0.555 127.426	(0.018)*** 1266 0.555 232.863	(0.025)*** 1069 32 116.103	(0.037)*** 1266 0.498 77.604 (86.390) 1266	(0.029)*** 1266 0.497 111.106	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs.
1215 38 0.219 (0.024)*** 1069 32 135.820 (57.425)**	(0.034)*** 1266 0.556 94.238 (85.460)	(0.027)*** 1266 0.555 127.426 (68.007)*	(0.018)*** 1266 0.555 232.863 (45.377)***	(0.025)*** 1069 32 116.103 (56.855)**	(0.037)*** 1266 0.498 77.604 (86.390)	(0.029)*** 1266 0.497 111.106 (68.657)	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)***	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment
1215 38 0.219 (0.024)*** 1069 32 135.820 (57.425)** 862	(0.034)*** 1266 0.556 94.238 (85.460) 1266	(0.027)*** 1266 0.555 127.426 (68.007)* 1266	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266	(0.025)*** 1069 32 116.103 (56.855)** 862	(0.037)*** 1266 0.498 77.604 (86.390) 1266	(0.029)*** 1266 0.497 111.106 (68.657) 1266	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth
1215 38 0.219 (0.024)*** 1069 32 135.820 (57.425)** 862	(0.034)*** 1266 0.556 94.238 (85.460) 1266	(0.027)*** 1266 0.555 127.426 (68.007)* 1266	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266	(0.025)*** 1069 32 116.103 (56.855)** 862	(0.037)*** 1266 0.498 77.604 (86.390) 1266	(0.029)*** 1266 0.497 111.106 (68.657) 1266	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs.
1215 38 0.219 (0.024)*** 1069 32 135.820 (57.425)** 862 25	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100	(0.025)*** 1069 32 116.103 (56.855)** 862 25	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266 0.089	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value
1215 38 0.219 (0.024)*** 1069 32 135.820 (57.425)** 862 25 0.311	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094 0.302	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266 0.089 0.078	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value
1215 38 0.219 (0.024)*** 1069 32 135.820 (57.425)** 862 25 0.311 (0.178)*	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453 (0.245)*	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347 (0.195)*	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138 (0.129)	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265 (0.179)	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407 (0.248)	(0.029)*** 1266 0.497 1111.106 (68.657) 1266 0.094 0.302 (0.197)	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266 0.089 0.078 (0.130)	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment
1215 38 0.219 (0.024)*** 1069 32 (57.425)** 862 25 0.311 (0.178)* 957	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453 (0.245)* 1256	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347 (0.195)* 1256	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138 (0.129) 1256	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265 (0.179) 957	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407 (0.248) 1256	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094 0.302 (0.197) 1256	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266 0.089 0.078 (0.130) 1256	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs.
1215 38 0.219 (0.024)*** 1069 32 (57.425)** 862 25 0.311 (0.178)* 957	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453 (0.245)* 1256	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347 (0.195)* 1256	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138 (0.129) 1256	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265 (0.179) 957	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407 (0.248) 1256	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094 0.302 (0.197) 1256	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266 0.089 0.078 (0.130) 1256	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth
1215 38 0.219 (0.024)*** 1069 32 (57.425)** 862 25 0.311 (0.178)* 957 29 -0.003 (0.148)	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453 (0.245)* 1256 0.047 0.044 (0.228)	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347 (0.195)* 1256 0.043	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138 (0.129) 1256 0.039	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265 (0.179) 957 29 0.060 (0.149)	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407 (0.248) 1256 0.029 0.084 (0.229)	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094 0.302 (0.197) 1226 0.025	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266 0.089 0.078 (0.130) 1256 0.020	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction
1215 38 0.219 (0.024)*** 1069 32 135.820 (57.425)** 862 25 0.311 (0.178)* 957 29 -0.003 (0.148) 997	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453 (0.245)* 1256 0.047 0.044 (0.228) 1256	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347 (0.195)* 1256 0.043 0.088 (0.181) 1256	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138 (0.129) 1256 0.039	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265 (0.179) 957 29 0.060 (0.149) 997	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407 (0.248) 1256 0.029 0.084 (0.229) 1256	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094 0.302 (0.197) 1256 0.129 (0.182) 1256	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266 0.089 0.078 (0.130) 1256 0.020 -0.032 (0.120) 1256	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs.
1215 38 0.219 (0.024)*** 1069 32 (57.425)** 862 25 0.311 (0.178)* 957 29 -0.003 (0.148)	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453 (0.245)* 1256 0.047 0.044 (0.228)	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347 (0.195)* 1256 0.043 0.088 (0.181)	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138 (0.129) 1256 0.039 -0.076 (0.120)	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265 (0.179) 957 29 0.060 (0.149)	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407 (0.248) 1256 0.029 0.084 (0.229)	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094 0.302 (0.197) 1256 0.025 0.129 (0.182)	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)** 1266 0.089 0.078 (0.130) 1256 0.020 -0.032 (0.120)	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment
1215 38 0.219 (0.024)*** 1069 32 135.820 (57.425)** 862 25 0.311 (0.178)* 957 29 -0.003 (0.148) 997 30	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453 (0.245)* 1256 0.047 0.044 (0.228) 1256 0.011	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347 (0.195)* 1256 0.043 0.088 (0.181) 1256 0.010	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138 (0.129) 1256 0.039 -0.076 (0.120) 1256 0.008	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265 (0.179) 957 29 0.060 (0.149) 997 30	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407 (0.248) 1256 0.029 0.084 (0.229) 1256 0.005	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094 0.302 (0.197) 1256 0.025 0.129 (0.182) 1256 0.004	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266 0.089 0.078 (0.130) 1256 0.020 -0.032 (0.120) 1256 0.003	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction
1215 38 0.219 (0.024)*** 1069 32 (57.425)** 862 25 0.311 (0.178)* 957 29 -0.003 (0.148) 997 30	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453 (0.245)* 1256 0.047 0.044 (0.228) 1256 0.047 -0.044	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347 (0.195)* 1256 0.043 0.088 (0.181) 1256 0.043	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138 (0.129) 1256 0.039 -0.076 (0.120) 1256 0.008 -0.008	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265 (0.179) 957 29 0.060 (0.149) 997 30 -0.060	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407 (0.248) 1256 0.029 0.084 (0.229) 1256 0.005 -0.166	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094 0.302 (0.197) 1256 0.025 0.129 (0.182) 1256 0.004 -0.133	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)** 1266 0.089 0.078 (0.130) 1256 0.020 -0.032 (0.120) 1256 0.003 0.003	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth
1215 38 0.219 (0.024)*** 1069 32 135.820 (57.425)** 862 25 0.311 (0.178) 957 29 -0.003 (0.148) 997 30 -0.227 (0.228)	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453 (0.245)* 1256 0.047 0.044 (0.228) 1256 0.011 -0.304 (0.415)	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347 (0.195)* 1256 0.043 0.088 (0.181) 1256 0.010 -0.274 (0.330)	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138 (0.129) 1256 0.039 -0.076 (0.120) 1256 0.008 -0.008	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265 (0.179) 957 29 0.060 (0.149) 997 30 -0.060 (0.231)	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407 (0.248) 1256 0.029 0.084 (0.229) 1256 0.005 -0.166 (0.421)	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094 0.302 (0.197) 1256 0.025 0.129 (0.182) 1256 0.004 -0.133 (0.334)	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)*** 1266 0.089 0.078 (0.130) 1256 0.020 -0.032 (0.120) 1256 0.003 0.014 (0.221)	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction Treatment
1215 38 0.219 (0.024)*** 1069 32 (57.425)** 862 25 0.311 (0.178)* 957 29 -0.003 (0.148) 997 30	(0.034)*** 1266 0.556 94.238 (85.460) 1266 0.107 0.453 (0.245)* 1256 0.047 0.044 (0.228) 1256 0.047 -0.044	(0.027)*** 1266 0.555 127.426 (68.007)* 1266 0.106 0.347 (0.195)* 1256 0.043 0.088 (0.181) 1256 0.043	(0.018)*** 1266 0.555 232.863 (45.377)*** 1266 0.100 0.138 (0.129) 1256 0.039 -0.076 (0.120) 1256 0.008 -0.008	(0.025)*** 1069 32 116.103 (56.855)** 862 25 0.265 (0.179) 957 29 0.060 (0.149) 997 30 -0.060	(0.037)*** 1266 0.498 77.604 (86.390) 1266 0.095 0.407 (0.248) 1256 0.029 0.084 (0.229) 1256 0.005 -0.166	(0.029)*** 1266 0.497 111.106 (68.657) 1266 0.094 0.302 (0.197) 1256 0.025 0.129 (0.182) 1256 0.004 -0.133	(0.019)*** 1266 0.498 ff lines) 213.642 (45.531)** 1266 0.089 0.078 (0.130) 1256 0.020 -0.032 (0.120) 1256 0.003 0.003	Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tari Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction

nonparametric regressions is estimated according to Imbens and Kalyanaraman (2012). Parametric specifications are chosen according to AIC/BIC among specifications including first-order to fifth-order polynomials.

Table 18: Sensitivity of LATE estimates of the impact of common language on imports from common-language speaking bordering countries to Switzerland to threshold variation at 15 km from baseline threshold (using road distance to the language border)

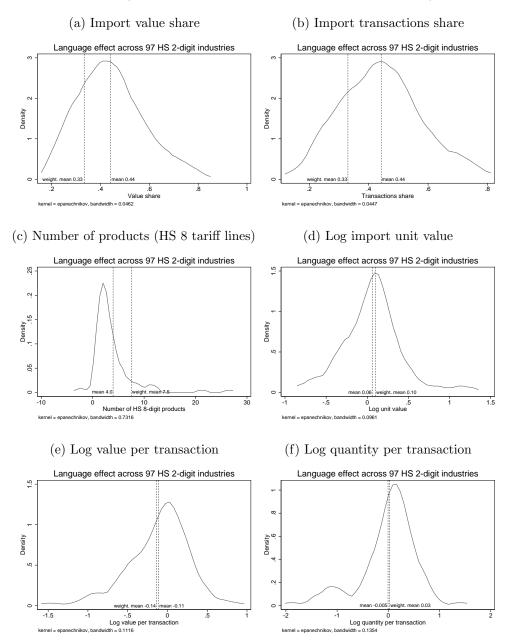
age Baseline regression 1st order 2nd order 3rd order Nonparam.	Including distance 1st order 2nd order	to external border 3rd order	Nonparam
metric All regions within the two respective language			
(1) (2) (3) (4)	(5) (6)	(7)	(8
0.239 0.231 0.197 0.236	0.270 0.265	0.240	0.268
$(0.019)^{***}$ $(0.029)^{***}$ $(0.039)^{***}$ $(0.022)^{***}$	(0.018)*** (0.028)***	(0.037)***	(0.021)***
2166 2166 2166 2155	2166 2166	2166	(0.021)
vidth 0.380 0.379 0.378 35	0.431 0.431	0.430	35
0.246 0.239 0.221 0.243	0.276 0.271	0.261	0.274
(0.015)*** (0.023)*** (0.031)*** (0.017)***	(0.014)*** (0.021)***	(0.029)***	(0.016)***
2166 2166 2166 2155	2166 2166	2166	2155
ridth 0.460 0.460 0.459 35	0.525 0.525	0.524	35
(HS8 tariff lines)			
311.353 254.290 117.718 259.476	299.460 246.287	124.571	251.633
(43.110)*** (66.563)*** (88.404) (51.870)***	(43.073)*** (66.086)***	(87.644)	(50.897)***
2166 2166 2166 1722 ridth 0.082 0.084 0.090 28	2166 2166 0.089 0.091	2166 0.097	1722 28
ridth 0.082 0.084 0.090 28	0.089 0.091	0.097	28
0.140 0.283 0.543 0.238	0.143 0.296	0.597	0.226
(0.106) $(0.163)^*$ $(0.217)^{**}$ $(0.132)^*$	(0.105) (0.161)*	(0.214)*** 2155	(0.131)* 1722
2155 2155 2155 1722 ridth 0.011 0.013 0.017 28	2155 2155 0.020 0.023	0.027	28
-0.012 -0.008 -0.066 -0.012	-0.070 -0.068	-0.130	-0.067
(0.090) (0.139) (0.185) (0.086)	(0.090) (0.138)	(0.183)	(0.087)
2155 2155 2155 2155	2155 2155	2155	2155
ridth 0.003 0.003 0.004 35	0.012 0.013	0.013	35
saction			
0.312 0.204 -0.003 0.271	0.166 0.053	-0.159	0.137
(0.164)* (0.253) (0.336) (0.171)	(0.163) (0.250)	(0.332)	(0.174)
$(0.164)^{n}$ (0.253) (0.336) (0.171) 2155 2155 2155 2155	(0.163) (0.250) 2155 2155	(0.332) 2155	(0.174) 2155
2155 2155 2155 2155	2155 2155 0.023 0.023	2155	2155
2155 2155 2155 2155 idth 0.005 0.005 0.007 35 All regions to left and right of langua	2155 2155 0.023 0.023 ige border within the same canton	2155 0.024	2155 35
2155 2155 <th< td=""><td>2155 2155 0.023 0.023 ige border within the same canton</td><td>2155</td><td>2155</td></th<>	2155 2155 0.023 0.023 ige border within the same canton	2155	2155
2155 2155 2155 2155 2155 idth 0.005 0.007 35 All regions to left and right of language 0.222 0.212 0.189 0.219 (0.026)*** (0.030)*** (0.050)*** (0.030)*** 1110 1110 1101 1101	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.245 (0.025)*** (0.038)*** 1110 1110	2155 0.024 0.227 (0.048)*** 1110	2155 35 0.254
2155 2155 <th< td=""><td>2155 2155 0.023 0.023 ge border within the same cantom 0.255 0.245 (0.025)*** (0.038)***</td><td>2155 0.024 0.227 (0.048)***</td><td>2155 35 0.254 (0.028)***</td></th<>	2155 2155 0.023 0.023 ge border within the same cantom 0.255 0.245 (0.025)*** (0.038)***	2155 0.024 0.227 (0.048)***	2155 35 0.254 (0.028)***
2155 2155 2155 2155 2155 idth 0.005 0.007 35 All regions to left and right of language 0.222 0.212 0.189 0.219 (0.026)*** (0.030)*** (0.050)*** (0.030)*** 1110 1110 1101 1101	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.245 (0.025)*** (0.038)*** 1110 1110	2155 0.024 0.227 (0.048)*** 1110	2155 35 0.254 (0.028)*** 1101
2155 2155 <th< td=""><td>2155 2155 0.023 0.023 ge border within the same canton 0.255 0.0255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235</td><td>2155 0.024 0.227 (0.048)*** 1110 0.471 0.237</td><td>2155 35 0.254 (0.028)*** 1101 35 0.252</td></th<>	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.0255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237	2155 35 0.254 (0.028)*** 1101 35 0.252
2155 2155 2155 2155 2155 All regions to left and right of langue 0.022 0.212 0.189 0.219 (0.026)*** (0.039)*** (0.050)*** (0.030)*** idth 0.422 0.424 0.423 35 0.235 0.204 0.201 0.216 (0.020)*** (0.030)*** (0.030)*** (0.029)***	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)***	0.227 (0.048)*** 1110 0.471 0.237 (0.036)***	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)***
2155 2150 2021 0.2110 <	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860
2155 2155 2155 2155 2155 All regions to left and right of langue 0.022 0.212 0.189 0.219 (0.026)*** (0.039)*** (0.050)*** (0.030)*** idth 0.422 0.424 0.423 35 0.235 0.204 0.201 0.216 (0.020)*** (0.030)*** (0.030)*** (0.029)***	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)***	0.227 (0.048)*** 1110 0.471 0.237 (0.036)***	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)***
2155 2155 2155 2155 2155 All regions to left and right of langua 0.222 0.212 0.189 0.219 (0.026)*** (0.039)*** (0.050)*** (0.030)*** (0.026)*** (0.030)*** (0.050)*** (0.030)*** (100 1110 1110 1101 1100 1110 1110 101 (0.020)*** (0.030)*** (0.038)*** (0.029)*** (0.020)*** (0.030)*** (0.038)*** (0.029)*** (idth 0.523 0.522 0.522 26 (HS8 tariff lines) I 1 1 1	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26
2155 2150 2161 0.229 0.219 0.219 0.000*** (0.030)*** (0.030)*** (0.030)*** (0.020)***	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.025)*** (0.038)*** (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882
2155 2156 2155 2156 2155 2156 2156 2156 2156 2156 2156 2156 2156 2156 2156 2156 2156 2156 2156 2157 2101 <th< td=""><td>2155 2155 0.023 0.023 ge border within the same canton 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)***</td><td>2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168)</td><td>2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)***</td></th<>	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)***	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168)	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)***
2155 2150 2150 2150 2150 2150 2150 2150 2150 2150 2160 2161 2100 2110 2101 2110 21	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882
2155 2150 305 310 310 3110 3110 1110 1110 1111 1111 1111 1111 1111 1111 1110 1110 1110 355 0.204 0.201 0.216 0.029)*** (0.038)*** (0.038)*** (0.029)*** 1110 1110 1110 1110 860 0.522 0.522 266 (HS8 tariff lines) 280.347 177.358 97.551 191.901 (48.230)*** 1110 1110 1110 848	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)***	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168)	2155 35 0.254 (0.028)*** 1101 135 0.252 (0.027)*** 860 26 217.882 (66.938)*** 848
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.225 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)*** 848 25
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 0.583	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)*** 848 25 0.278
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321 (0.133) (0.200)	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 0.583 (0.254)**	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)*** 848 25
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 0.583	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)** 848 25 (66.938)** 848 25 0.278 (0.171)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.225 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 196.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321 (0.133) (0.200) 1101 1101	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 0.583 (0.254)** 1101	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)*** 848 25 0.278 849 25 0.278
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.225 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321 (0.133) (0.200) 1101 1101 0.038 0.047	2155 0.024 0.227 (0.048)*** 1110 0.471 0.471 0.471 0.471 0.471 0.471 1110 0.581 125.605 (92.168) 1110 0.113 0.583 (0.254)** 1101 0.449 -0.233	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)*** 848 25 0.278 (0.171) 869 26 -0.118
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.225 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.106 0.110 0.108 0.047 0.038 0.047 -0.142 -0.081 (0.123) (0.186)	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 0.583 (0.254)** 1101 0.049 -0.233 (0.236)	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)*** (66.938)*** 848 25 0.278 (0.171) 869 26
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2155 2155 0.023 0.023 ge border within the same cantom 0.255 0.225 0.245 (0.025)*** (0.038)*** 110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321 (0.133) (0.200) 1101 1101 0.038 0.047 -0.142 -0.081 (0.123) (0.186) 1101 1101	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 (0.254)** 100 0.113 (0.254)* 1101	2155 35 0.254 (0.028)*** (0.027)*** 860 26 217.862 (66.938)*** (66.938)*** (66.938)*** 0.278 (0.171) 869 26 0.278 (0.171) 869 26 0.278 (0.171) 869 26 0.278 (0.171) 869 26
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.225 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.106 0.110 0.108 0.047 0.038 0.047 -0.142 -0.081 (0.123) (0.186)	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 0.583 (0.254)** 1101 0.049 -0.233 (0.236)	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)*** 848 25 0.278 (0.171) 869 26 -0.118 (0.122)
2155 2150 35 0.022 0.212 0.189 0.219 (0.030)*** (0.030)*** (0.030)*** (0.030)*** (0.030)*** (0.020)*** (2155 2155 0.023 0.023 ge border within the same canton 0.255 0.225 0.023 (0.025)*** (0.038)*** (110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321 (0.133) (0.200) 1101 1101 0.036 0.047	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 0.583 (0.254)** 1101 0.049 -0.233 (0.236) 1101 0.008	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)*** 848 25 0.278 (0.171) 869 26 -0.118 (0.122) 1060 33
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321 (0.133) (0.200) 1101 1101 0.038 0.047 -0.142 -0.081 (0.123) (0.186) 1101 1001 0.007 0.007	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 0.113 (0.254)** 1101 0.049 -0.233 (0.236) 1101 0.008 -0.306	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)*** 848 25 0.278 (0.171) 869 26 0.278 (0.171) 869 26 0.278 (0.171) 869 26 0.278 33 -0.118
2155 2152 2151 2161 <t< td=""><td>2155 2155 0.023 0.023 ge border within the same canton 0.255 0.255 0.245 (0.025)*** (0.038)*** 110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321 (0.133) (0.200) 1101 1101 0.038 0.047 -0.142 -0.081 (0.123) (0.186) 1101 1101 0.007 0.007 -0.062 -0.185 (0.228) (0.344)</td><td>2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 (0.254)** 1101 0.049 -0.233 (0.236) 1101 0.008 -0.236 (0.437)</td><td>2155 35 0.254 (0.028)*** (0.027)*** 860 26 217.882 (66.938)*** (66.938)*** 848 25 0.278 (0.171) 869 26 -0.118 (0.122) 1060 33 -0.119 (0.230)</td></t<>	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.255 0.245 (0.025)*** (0.038)*** 110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321 (0.133) (0.200) 1101 1101 0.038 0.047 -0.142 -0.081 (0.123) (0.186) 1101 1101 0.007 0.007 -0.062 -0.185 (0.228) (0.344)	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 (0.254)** 1101 0.049 -0.233 (0.236) 1101 0.008 -0.236 (0.437)	2155 35 0.254 (0.028)*** (0.027)*** 860 26 217.882 (66.938)*** (66.938)*** 848 25 0.278 (0.171) 869 26 -0.118 (0.122) 1060 33 -0.119 (0.230)
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2155 2155 0.023 0.023 ge border within the same canton 0.255 0.255 0.245 (0.025)*** (0.038)*** 1110 1110 0.469 0.471 0.266 0.235 (0.019)*** (0.028)*** 1110 1110 0.581 0.580 281.837 198.841 (48.094)*** (72.514)*** 1110 1110 0.106 0.110 0.124 0.321 (0.133) (0.200) 1101 1101 0.038 0.047 -0.142 -0.081 (0.123) (0.186) 1101 1001 0.007 0.007	2155 0.024 0.227 (0.048)*** 1110 0.471 0.237 (0.036)*** 1110 0.581 125.605 (92.168) 1110 0.113 0.113 (0.254)** 1101 0.049 -0.233 (0.236) 1101 0.008 -0.306	2155 35 0.254 (0.028)*** 1101 35 0.252 (0.027)*** 860 26 217.882 (66.938)*** 848 25 0.278 (0.171) 869 26 0.278 (0.171) 869 26 0.278 (0.171) 869 26 0.278 33 -0.118

Table 19: LATE estimates of the impact of common language on imports of consumer goods only from common language speaking bordering countries to Switzerland (using road distance to the language border)

Common native language effect with parametric	1st order	Baseline re 2nd order	agression 3rd order	Nonparam.	1st order	luding distance to 2nd order	3rd order	Nonparam
polynomial or nonparametric			within the two resp					param
control function	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8
/alue share								
Treatment	0.186	0.179	0.140	0.179	0.193	0.184	0.143	0.185
	(0.019)***	(0.032)***	(0.045)***	(0.025)***	(0.019)***	(0.031)***	(0.043)***	(0.025)***
Obs.	2968	2968	2968	2641	2968	2968	2968	2641
Cent. R-squ./Bandwidth	0.338	0.337	0.334	44	0.380	0.380	0.377	44
Transactions share								
Treatment	0.195	0.190	0.182	0.189	0.202	0.194	0.185	0.195
	(0.016)***	(0.026)***	(0.037)***	(0.022)***	(0.015)***	(0.025)***	(0.035)***	(0.023)***
Obs.	2968	2968	2968	2404	2968	2968	2968	2404
Cent. R-squ./Bandwidth	0.383	0.383	0.382	41	0.434	0.433	0.433	41
Number of products (HS8 tariff	lines)							
Treatment	193.534	81.539	82.418	106.357	191.573	89.237	94.021	112.111
ricument	(41.756)***	(68.875)	(96.537)	(55.822)*	(41.556)***	(68.739)	(96.541)	(54.810)**
Obs.	2968	2968	2968	1830	2968	2968	2968	1830
Cent. R-squ./Bandwidth	0.075	0.078	0.078	31	0.080	0.083	0.083	31
Log unit value			o 4 7 0	0.050	-		<i></i> .	
Treatment	0.066	0.032	-0.173	0.059	0.067	0.056	-0.141	0.066
Oha	(0.111)	(0.184)	(0.258)	(0.128)	(0.110)	(0.183)	(0.257)	(0.128)
Obs. Cent. R-squ./Bandwidth	2950 0.009	2950 0.010	2950 0.010	2950 50	2950 0.016	2950 0.017	2950 0.017	2950 50
Cent. K-squ./Danuwuti	0.003	0.010	0.010	50	0.010	0.017	0.017	50
Log value per transaction								
Treatment	-0.076	-0.117	-0.227	-0.088	-0.092	-0.123	-0.227	-0.099
	(0.085)	(0.141)	(0.198)	(0.093)	(0.085)	(0.140)	(0.197)	(0.093)
Obs.	2950	2950	2950	2950	2950	2950	2950	2950
Cent. R-squ./Bandwidth	0.002	0.002	0.004	50	0.014	0.015	0.016	50
Log quantity per transaction								
Treatment	-0.002	-0.313	-0.291	-0.222	-0.045	-0.323	-0.282	-0.230
110damona	(0.157)	(0.259)	(0.364)	(0.214)	(0.155)	(0.257)	(0.361)	(0.213)
Obs.	2950	2950	2950	2033	2950	2950	2950	2033
Cent. R-squ./Bandwidth	0.004	0.006	0.006	34	0.025	0.026	0.026	34
Cerit. K-squ./Banuwiutii								
Cent. K-squ./Bandwidth		A	Il regions to left an		ge border within th	ne same canton		
Value share				d right of languag				
•	0.153	0.174	0.159	d right of languag 0.162	0.158	0.161	0.141	
Value share Treatment	0.153 (0.025)***	0.174 (0.039)***	0.159 (0.052)***	d right of langua 0.162 (0.032)***	0.158 (0.024)***	0.161 (0.038)***	(0.052)***	0.160 (0.032)***
Value share Treatment Obs.	0.153 (0.025)*** 1644	0.174 (0.039)*** 1644	0.159 (0.052)*** 1644	d right of languag 0.162 (0.032)*** 1450	0.158 (0.024)*** 1644	0.161 (0.038)*** 1644	(0.052)*** 1644	(0.032)*** 1450
Value share Treatment	0.153 (0.025)***	0.174 (0.039)***	0.159 (0.052)***	d right of langua 0.162 (0.032)***	0.158 (0.024)***	0.161 (0.038)***	(0.052)***	
Value share Treatment Obs.	0.153 (0.025)*** 1644	0.174 (0.039)*** 1644	0.159 (0.052)*** 1644	d right of languag 0.162 (0.032)*** 1450	0.158 (0.024)*** 1644	0.161 (0.038)*** 1644	(0.052)*** 1644	(0.032)*** 1450
Value share Treatment Obs. Cent. R-squ./Bandwidth	0.153 (0.025)*** 1644 0.355 0.173	0.174 (0.039)*** 1644	0.159 (0.052)*** 1644 0.357 0.228	d right of languag 0.162 (0.032)*** 1450 42 0.186	0.158 (0.024)*** 1644 0.393 0.179	0.161 (0.038)*** 1644	(0.052)*** 1644 0.393 0.214	(0.032)*** 1450 42
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment	0.153 (0.025)*** 1644 0.355 0.173 (0.020)***	0.174 (0.039)*** 1644 0.357 0.191 (0.032)***	0.159 (0.052)*** 1644 0.357 0.228 (0.042)***	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)***	0.158 (0.024)*** 1644 0.393 0.179 (0.020)***	0.161 (0.038)*** 1644 0.393 0.179 (0.031)***	(0.052)*** 1644 0.393 0.214 (0.041)***	(0.032)*** 1450 42 0.183 (0.027)***
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs.	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644	(0.032)*** 1450 42 0.183 (0.027)*** 1380
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment	0.153 (0.025)*** 1644 0.355 0.173 (0.020)***	0.174 (0.039)*** 1644 0.357 0.191 (0.032)***	0.159 (0.052)*** 1644 0.357 0.228 (0.042)***	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)***	0.158 (0.024)*** 1644 0.393 0.179 (0.020)***	0.161 (0.038)*** 1644 0.393 0.179 (0.031)***	(0.052)*** 1644 0.393 0.214 (0.041)***	(0.032)*** 1450 42 0.183 (0.027)*** 1380
Value share Treatment Obs. Cent. R-squ./Bandwidth Trasactions share Treatment Obs. Cent. R-squ./Bandwidth	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644	(0.032)*** 1450 42 0.183 (0.027)*** 1380
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 * lines)	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644 0.417	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 f lines) 188.804	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644 0.417 117.088	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)**
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 * lines) 188.804 (45.825)***	0.174 (0.039)*** 1644 0.357 (0.032)*** 1644 0.417 117.088 (71.663)	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326)	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)**	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)***	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055)	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062)	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 * lines) 188.804 (45.825)*** 1644	0.174 (0.039)*** 1644 0.357 (0.032)*** 1644 0.417 117.088 (71.663) 1644	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206	0.158 (0.024)*** 1644 0.393 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644	0.161 (0.038)*** 1644 0.393 (0.031)*** 1644 0.458 110.760 (72.055) 1644	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 * lines) 188.804 (45.825)*** 1644 0.080	0.174 (0.039)*** 1644 0.357 (0.191 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34	0.158 (0.024)*** 1644 0.393 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 0.080	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34 0.052	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 0.008 0.008 (0.139)	0.174 (0.039)*** 1644 0.357 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105 (0.218)	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294)	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34 0.052 (0.194)	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139)	0.161 (0.038)*** 1644 0.393 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219)	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165 (0.296)	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191)
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 0.080	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34 0.052	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 * lines) 188.804 (45.825)*** 1644 0.080 0.008 (0.139) 1632	0.174 (0.039)*** 1644 0.357 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105 (0.218) 1632	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294) 1632	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34 0.052 (0.194) 1549	0.158 (0.024)*** 1644 0.393 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139) 1632	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219) 1632	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165 (0.296) 1632	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 fines) 188.804 (45.825)*** 1644 0.080 0.008 (0.139) 1632 0.017	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.082 0.105 (0.218) 1632 0.019	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294) 1632 0.020	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34 0.052 (0.194) 1549 46	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139) 1632 0.031	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219) 1632 0.032	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 148.644 0.096 -0.165 (0.296) 1632 0.034	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549 46
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 0.080 (0.139) 1632 0.017 -0.192	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105 (0.218) 1632 0.019	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294) 1632 0.020 -0.444	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)*** 1206 34 0.052 (0.194) 1549 46 -0.197	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139) 1632 0.031	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219) 1632 0.032 -0.185	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165 (0.296) 1632 0.034 -0.416	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549 46 -0.201
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 0.008 (0.139) 1632 0.017 -0.192 (0.112)*	0.174 (0.039)*** 1644 0.357 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105 (0.218) 1632 0.019 -0.210 (0.175)	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294) 1632 0.020 -0.444 (0.236)*	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34 0.052 (0.194) 1549 46 -0.197 (0.119)*	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139) 1632 0.031	0.161 (0.038)*** 1644 0.393 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219) 1632 0.032 -0.185 (0.177)	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165 (0.296) 1632 0.034 -0.416 (0.239)*	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549 46 -0.201 (0.119)*
Value share Treatment Obs. Cent. R-squ./Bandwidth Trasactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs.	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 (0.139) 1632 0.017 -0.192 (0.112)* 1632	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105 (0.218) 1632 0.019 -0.210 (0.175) 1632	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294) 1632 0.020	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34 0.052 (0.194) 1549 46 -0.197 (0.119)* 1632	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139) 1632 0.031	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219) 1632 0.032 -0.185 (0.177) 1632	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165 (0.296) 1632 0.034 -0.416 (0.239)* 1632	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549 46 -0.201 (0.119)*
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 0.008 (0.139) 1632 0.017 -0.192 (0.112)*	0.174 (0.039)*** 1644 0.357 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105 (0.218) 1632 0.019 -0.210 (0.175)	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294) 1632 0.020 -0.444 (0.236)*	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34 0.052 (0.194) 1549 46 -0.197 (0.119)*	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139) 1632 0.031	0.161 (0.038)*** 1644 0.393 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219) 1632 0.032 -0.185 (0.177)	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165 (0.296) 1632 0.034 -0.416 (0.239)*	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549 46 -0.201 (0.119)*
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 (0.139) 1632 0.017 -0.192 (0.112)* 1632 0.006	0.174 (0.039)*** 1644 0.357 0.191 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105 (0.218) 1632 0.019 -0.210 (0.175) 1632 0.006	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294) 1632 0.020 -0.444 (0.236)* 1632 0.010	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34 0.052 (0.194) 1549 46 -0.197 (0.119)* 1632 50	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139) 1632 0.031 -0.193 (0.112)* 1632 0.011	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219) 1632 0.032 -0.185 (0.177) 1632	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165 (0.296) 1632 0.034 -0.416 (0.239)* 1632 0.014	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549 46 -0.201 (0.119)* 1632 50
Value share Treatment Obs. Cent. R-squ/Bandwidth Transactions share Treatment Obs. Cent. R-squ/Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ/Bandwidth Log unit value Treatment Obs. Cent. R-squ/Bandwidth Log value per transaction Treatment Obs. Cent. R-squ/Bandwidth	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 (45.825)*** 1644 0.080 (0.139) 1632 0.017 -0.192 (0.112)* 1632 0.006 -0.095	0.174 (0.039)*** 1644 0.357 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105 (0.218) 1632 0.019 -0.210 (0.175) 1632 0.006	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294) 1632 0.020 -0.444 (0.236)* 1632 0.020	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)*** 1206 34 0.052 (0.194) 1549 46 -0.197 (0.119)* 1632 50 -0.192	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139) 1632 0.031 -0.193 (0.112)* 1632 0.011	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219) 1632 0.032 -0.185 (0.177) 1632 0.031	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165 (0.296) 1632 0.034 -0.416 (0.239)* 1632 0.014 -0.059	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549 46 -0.201 (0.119)* 1632 50 -0.179
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log unit value Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log quantity per transaction Treatment	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 0.008 (0.139) 1632 0.017 -0.192 (0.112)* 1632 0.006 -0.095 (0.206)	0.174 (0.039)*** 1644 0.357 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105 (0.218) 1632 0.019 -0.210 (0.175) 1632 0.006 -0.257 (0.323)	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294) 1632 0.020 -0.444 (0.236)* 1632 0.010 -0.180 (0.434)	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)** 1206 34 0.052 (0.194) 1549 46 -0.197 (0.119)* 1632 50 -0.192 (0.240)	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139) 1632 0.031 -0.193 (0.112)* 1632 0.011 -0.092 (0.205)	0.161 (0.038)*** 1644 0.393 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219) 1632 0.032 -0.185 (0.177) 1632 0.032	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165 (0.296) 1632 0.034 -0.416 (0.239)* 1632 0.034 -0.416 (0.239)* 1632 0.014	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549 46 -0.201 (0.119)* 1632 50 -0.179 (0.238)
Value share Treatment Obs. Cent. R-squ./Bandwidth Transactions share Treatment Obs. Cent. R-squ./Bandwidth Number of products (HS8 tariff Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth Log value per transaction Treatment Obs. Cent. R-squ./Bandwidth	0.153 (0.025)*** 1644 0.355 0.173 (0.020)*** 1644 0.415 188.804 (45.825)*** 1644 0.080 (45.825)*** 1644 0.080 (0.139) 1632 0.017 -0.192 (0.112)* 1632 0.006 -0.095	0.174 (0.039)*** 1644 0.357 (0.032)*** 1644 0.417 117.088 (71.663) 1644 0.082 0.105 (0.218) 1632 0.019 -0.210 (0.175) 1632 0.006	0.159 (0.052)*** 1644 0.357 0.228 (0.042)*** 1644 0.422 156.900 (96.326) 1644 0.082 -0.154 (0.294) 1632 0.020 -0.444 (0.236)* 1632 0.020	d right of languag 0.162 (0.032)*** 1450 42 0.186 (0.028)*** 1380 40 139.448 (64.264)*** 1206 34 0.052 (0.194) 1549 46 -0.197 (0.119)* 1632 50 -0.192	0.158 (0.024)*** 1644 0.393 0.179 (0.020)*** 1644 0.458 198.871 (45.827)*** 1644 0.092 0.043 (0.139) 1632 0.031 -0.193 (0.112)* 1632 0.011	0.161 (0.038)*** 1644 0.393 0.179 (0.031)*** 1644 0.458 110.760 (72.055) 1644 0.096 0.100 (0.219) 1632 0.032 -0.185 (0.177) 1632 0.031	(0.052)*** 1644 0.393 0.214 (0.041)*** 1644 0.462 148.644 (97.062) 1644 0.096 -0.165 (0.296) 1632 0.034 -0.416 (0.239)* 1632 0.014 -0.059	(0.032)*** 1450 42 0.183 (0.027)*** 1380 40 133.478 (64.062)** 1206 34 0.045 (0.191) 1549 46

n (2012) ng specifications including first-order to fifth-order polynomials.

Figure 15: Kernel density of LATE estimates of the impact of common language on imports from common language speaking bordering countries to Switzerland by HS 2-digit industry (using road distance to the language borders)



Notes: Parametric linear regressions including external border distance with all regional units within the two respective language districts to left and right of language border in all figures. We weight the mean across all 2-digit industries by the industry share in terms of import value in CHF.

Table 20: LATE estimates of the impact of common language on imports from common language speaking bordering countries to Switzerland according to (liberal) Rauch goods classification (using road distance to the language border)

Common native language effect with parametric		homogeno	us goods			reference pr	ssified goods iced goods	Ū		differentiat	ed goods	
polynomial or nonparametric	1st order	2nd order	3rd order	Nonparam.	1st order	2nd order	3rd order	Nonparam.	1st order	2nd order		Nonparam
control function	(4)	(0)	All regi	onal units within							(4.4)	140
/alue share	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12
Treatment	0.157	0.115	0.103	0.119	0.158	0.155	0.138	0.157	0.202	0.169	0.116	0.17
	(0.048)***	(0.081)	(0.117)	(0.079)	(0.026)***	(0.042)***	(0.059)**	(0.031)***	(0.020)***	(0.033)***	(0.046)**	(0.029)**
Obs.	1576	1576	1576	1067	2766	2766	2766	2703	2958	2958	2958	223
Cent. R-squ./Bandwidth	0.119	0.118	0.117	34	0.218	0.219	0.218	49	0.372	0.371	0.367	3
Transactions share												
Treatment	0.187	0.141	0.130	0.143	0.167	0.189	0.167	0.178	0.217	0.213	0.203	0.21
Oha	(0.042)***	(0.072)*	(0.104)	(0.073)**	(0.020)***	(0.034)***	(0.047)***	(0.028)***	(0.015)***	(0.026)***	(0.036)***	(0.023)**
Obs. Cent. R-squ./Bandwidth	1576 0.177	1576 0.175	1576 0.174	1057 34	2766 0.263	2766 0.264	2766 0.264	2386 43	2958 0.452	2958 0.452	2958 0.451	236 4
Number of products (HS8 ta		0.055	4 0 4 0			0.400	0.075	0.505	100 700	50.005		
Treatment	1.451 (2.025)	-3.055 (3.447)	-1.642 (4.947)	0.336 (2.733)	19.318 (7.326)***	6.122 (12.056)	8.875 (16.918)	9.525 (8.577)	120.792 (24.763)***	58.235 (40.923)	61.331 (57.452)	72.44 (33.332)
Obs.	(2.023)	1576	1576	636	2766	2766	2766	1738	2958	2958	2958	(33.332)
Cent. R-squ./Bandwidth	0.042	0.048	0.049	22	0.050	0.053	0.053	32	0.083	0.086	0.086	3
Log unit value Treatment	0.538	-0.444	-1.062	-0.777	0.406	0.508	0.416	0.449	-0.014	-0.025	-0.070	-0.01
rieduneni	(0.335)	-0.444 (0.572)	(0.820)	-0.777 (0.695)	(0.173)**	(0.284)*	(0.399)	(0.200)**	-0.014 (0.098)	-0.025 (0.163)	-0.070 (0.229)	-0.01
Obs.	1563	1563	1563	674	2740	2740	2740	2740	2932	2932	2932	293
Cent. R-squ./Bandwidth	0.035	0.037	0.038	22	0.061	0.063	0.063	50	0.009	0.010	0.010	50
Log value per transaction Treatment	-0.224	-0.371	-0.490	-0.309	-0.125	0.011	0.174	-0.051	0.014	-0.186	-0.285	-0.134
ricament	(0.234)	(0.399)	(0.572)	(0.352)	(0.129)	(0.213)	(0.299)	(0.153)	(0.093)	(0.154)	(0.216)	(0.137
Obs.	1573	1573	1573	1256	2744	2744	2744	2611	2932	2932	2932	1974
Cent. R-squ./Bandwidth	0.012	0.015	0.017	40	0.022	0.022	0.022	47	0.009	0.011	0.011	33
Log quantity per transaction												
Treatment	-0.475	-0.028	0.202	-0.167	0.237	0.093	0.233	0.167	0.276	-0.034	0.119	0.11
	(0.400)	(0.683)	(0.980)	(0.635)	(0.238)	(0.392)	(0.550)	(0.279)	(0.165)*	(0.274)	(0.385)	(0.227
Obs.	1563	1563	1563	1064	2740	2740	2740	2508	2932	2932	2932	203
Cent. R-squ./Bandwidth	0.018	0.019	0.019	34	0.056	0.057	0.057	45	0.028	0.029	0.029	35
				All region:	s to left and r	ight of langua	age border w	thin the same	canton			
Value share Treatment	0.094	0.104	0.066	0.094	0.155	0.150	0.152	0.149	0.164	0.151	0.143	0.16
rieaunent	(0.063)	(0.102)	(0.144)	(0.072)	(0.034)***	(0.053)***	(0.072)**	(0.040)***	(0.025)***	(0.040)***	(0.054)***	(0.031)**
Obs.	861	861	861	855	1535	1535	1535	1499	1637	1637	1637	156
Cent. R-squ./Bandwidth	0.091	0.093	0.092	50	0.191	0.192	0.192	49	0.399	0.399	0.398	4
Transactions share												
Treatment	0.125	0.102	0.072	0.121	0.146	0.146	0.160	0.143	0.199	0.215	0.251	0.22
	(0.056)**	(0.091)	(0.128)	(0.076)	(0.027)***	(0.042)***	(0.057)***	(0.033)***	(0.020)***	(0.031)***	(0.042)***	(0.030)**
Obs.	861	861	861	730	1535	1535	1535	1462	1637	1637	1637	119
Cent. R-squ./Bandwidth	0.143	0.143	0.141	40	0.213	0.214	0.214	47	0.480	0.482	0.486	3
Number of products (HS8 ta	riff lines)											
Treatment	2.091	-0.704	0.462	1.267	21.776	10.022	13.445	12.973	125.764	70.945	96.789	85.91
	(1.936)	(3.151)	(4.435)	(2.673)	(7.208)***	(11.339)	(15.368)	(9.849)	(28.016)***	(44.026)	(59.270)	(39.394)*
Obs.	861	861	861	486	1535	1535	1535	1123	1637	1637	1637	119
Cent. R-squ./Bandwidth	0.028	0.033	0.033	25	0.047	0.050	0.050	34	0.094	0.098	0.097	3
Log unit value												
Treatment	-0.062	-0.752	-1.387	-0.587	0.319	0.608	0.890	0.552	0.017	0.062	-0.044	0.00
	(0.425)	(0.692)	(0.973)	(0.693)	(0.222)	(0.349)*	(0.473)*	(0.305)*	(0.122)	(0.192)	(0.259)	(0.153
Obs.	855	855	855 0.086	580	1517	1517	1517	993	1618	1618	1618	161
Cent. R-squ./Bandwidth	0.082	0.084	0.086	30	0.094	0.096	0.098	30	0.015	0.016	0.016	5
Log value per transaction												
Treatment	-0.506	-0.518	-0.429	-0.259	0.075	-0.207	0.071	0.120	-0.321	-0.523	-0.629	-0.19
	(0.701)	(0.900)	(1.062)	(0.392)	(0.365)	(0.471)	(0.549)	(0.208)	(0.261)	(0.337)	(0.394)	(0.152
Oha	858 0.014	858 0.015	858 0.015	787 44	1518 0.014	1518 0.017	1518 0.017	1365 43	1618 0.020	1618 0.022	1618 0.022	142 4
Obs. Cent R-squ /Bandwidth	0.014	0.010	0.010		0.014	0.017	0.017	40	0.020	0.022	0.022	4.
Obs. Cent. R-squ./Bandwidth												
Cent. R-squ./Bandwidth							-0.132	0.161	0.146	0.029		2.719E-04
Cent. R-squ./Bandwidth	-0.107	0.078	0.678	-0.022	0.350	0.134					0.537	
Cent. R-squ./Bandwidth Log intensive margin (value Treatment	-0.107 (0.537)	0.078 (0.874)	(1.230)	(0.657)	(0.314)	(0.494)	(0.669)	(0.393)	(0.220)	(0.347)	(0.468)	(0.248
Cent. R-squ./Bandwidth	-0.107	0.078										