

EU Enlargement and the New Goods Margin in Austrian Trade*

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Abstract

Using the methodology developed in Kehoe and Ruhl (2013), I measure the change in the extensive, or new goods, margin of trade between Austria and the ten new entrants to the European Union in 2004. On average, the new goods account for 56% of the bilateral trade flow after enlargement. A time series measure shows growth in the new goods margin coincides with the period surrounding the 2004 enlargement, which provides evidence on the importance of the role played by the new goods margin in the growth in trade during a trade liberalization.

JEL Classification: F10, F13, F14

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1 Introduction

The 2004 enlargement of the European Union (EU) represents a major step in solidifying the reintegration of Western and Eastern Europe after the end of the Cold War. Along with eight Central and Eastern European countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia), two Mediterranean countries (Malta and Cyprus) joined the EU on May 1, 2004.¹ The 2004 enlargement differs from other enlargements of the EU in some important respects. In terms of population and number of countries, the 2004 enlargement is the largest ever undertaken by the EU. The 2004 enlargement also shifts the EU's center of gravity eastward. The trade liberalization portion of enlargement represents a significant policy change with implications for the patterns of international trade, especially between existing EU member countries prior to 2004 and those new entrants to the EU. The large differences between the economies of the old members and new entrants suggest the potential for significant trade growth. Trade growth occurs along either the intensive or extensive margin at the goods level.² In this paper, I study the effects of the 2004 enlargement on the growth in trade along the extensive margin.³ I focus specifically on the extensive margin because it is often ignored, both theoretically and empirically, but has recently been shown to be an important driver of the growth in trade (Kehoe and Ruhl (2013)).

In particular, I take Austria as my point of reference and measure the extensive margin of trade between Austria and the ten expansion countries. Thinking in terms of a simple gravity model, Austria is a natural candidate to consider for trade growth after the trade liberalization because of its close proximity to the expansion countries. Out of all the existing members of the EU before enlargement, Austria shares a border with the most countries, four out of ten, joining the EU in 2004 and is close geographically to the other entrants. Austria and its four

¹Bulgaria and Romania would join later on January 1, 2007. I only consider the countries admitted during the 2004 enlargement in this paper's analysis.

²Of course, these margins can be decomposed even further, as in Cassey and Schmeiser (2013), which analyzes exports along five margins: newly exported products, products exiting the market, and continuously traded products to same, new, and lost markets. Trade growth can also be analyzed at the firm level, requiring firm-level data. The equivalent intensive margin might be sales of firms already exporting to a market, whereas the extensive margin would measure the sales of new entrants to the market. Firm-level margins are particularly relevant for heterogeneous firm models à la Melitz (2003).

³There is also a literature focused on the role played by the adoption of the euro in the growth in trade, including growth along the extensive margin. See, for example, Baldwin and Di Nino (2006), Flam and Nordström (2006), and Berger and Nitsch (2008).

bordering entrants also share a close cultural and political history through their experience in the Austro-Hungarian Empire, which may provide for a shorter distance, again in a gravity model sense, between these countries and greater potential for trade after a trade liberalization. For these reasons, trade between Austria and the EU entrants provides a good case for studying the role played by the extensive margin after a trade liberalization.

I measure the change in the extensive margin in the twenty bilateral trade flows, exports and imports, between Austria and the 2004 entrants to the EU using the methodology developed in Kehoe and Ruhl (2013). Using goods-level data, growth in the extensive margin occurs when previously non-traded goods become traded. As a result, I refer to this extensive margin as the *new goods margin*. In section 2, I describe the Kehoe and Ruhl (2013) methodology in depth, my motivation for using the methodology, and alternative methodologies in the literature. The appendix presents two robustness checks of my results.

I uncover four main findings in my analysis of the Austrian trade data. First, significant growth occurs in the new goods margin in all twenty bilateral trade flows. The new goods range from accounting for 34% (Austrian imports from the Czech Republic) to 85% (Austrian imports from Cyprus) of the trade flow after EU enlargement. On average, the new goods account for 56% of the trade flow after liberalization. With respect to its contribution to overall trade growth, the new goods margin accounts for nearly 78% of the growth on average for the bilateral trade flows I consider.⁴ Second, the growth in the new goods margin coincides with the period surrounding enlargement of the EU in 2004. This result shows enlargement has a clear impact on the new goods margin of trade, even though trade in goods between the EU and the 2004 entrants faced fewer restrictions after the passing of the so-called *Europe Agreements* in the 1990s. Egger and Larch (2011) shows the partial elimination of tariffs as a part of the Europe Agreements did facilitate trade growth between the EU and the 2004 entrants.⁵ My results show the period surrounding the 2004 enlargement had a further significant effect on the new goods margin. Third, growth in the new goods margin is higher for Austrian imports from the EU expansion countries than it is for Austrian exports to these countries. Fourth, on average, the magnitude of trade growth in the new goods margin is higher for EU entrants not sharing

⁴And, so, on average, growth in the intensive margin accounts for 22% of the overall trade growth.

⁵Milner and Sledziewska (2008) finds a similar result but focuses only on the case of Poland.

a border with Austria than between Austria and its immediate neighbors.

My results directly expand those in Kehoe and Ruhl (2013) by considering a major trade liberalization episode not included in the authors' analysis. Kehoe and Ruhl (2013) considers the effects on the new goods margin from the passing of the North American Free Trade Agreement (NAFTA) and China's accession to the World Trade Organization (WTO). The authors find significant evidence for growth in the new goods margin following these trade liberalization episodes. For the case of Austrian trade, the magnitudes of the growth in the new goods margin are similar to or greater than the magnitudes after the trade liberalizations found by Kehoe and Ruhl (2013). My results corroborate those in Kehoe and Ruhl (2013) by providing further evidence showing the importance of the new goods margin. These empirical findings matter for international economists and policy-makers. The findings suggest models in which the extensive margin plays a significant role may be better suited for studying the effects of trade liberalization on the patterns of a country's trade. Those parties interested in the effects of the 2004 EU enlargement, for example, would have been ill prepared for what actually occurred if they relied on analysis only considering the intensive margin.

In the case of Costa Rica, Arkolakis, Demidova, Klenow, and Rodríguez-Clare (2008) finds growth in imported varieties coincides with a period of trade liberalization. Foster (2012) finds the majority of the growth in imports for countries signing preferential trade agreements occurs along the extensive margin. Using the methodology developed in Kehoe and Ruhl (2013), Sandrey and van Seventer (2004), Mukerji (2009), and Dalton (2014) all document growth in the new goods margin after trade liberalizations. Sandrey and van Seventer (2004) considers trade liberalization between Australia and New Zealand. New goods account for 29.5% of New Zealand exports to Australia and 21.9% of Australian exports to New Zealand after trade barriers decrease. Mukerji (2009) finds India's unilateral trade liberalization resulted in new goods accounting for 33.8% and 26.5% of total imports and exports, respectively. Dalton (2014) shows new goods account for 22% of Chinese exports to Japan after China joins the WTO. The composition of Japanese exports to China underwent a much smaller change, however. New goods only account for 15.9% of Japanese exports to China after China joins the WTO.

I organize the remainder of the paper as follows: Section 2 describes the Kehoe and Ruhl (2013) methodology used in the analysis. I report the results in section 3. Section 4 concludes.

2 Kehoe and Ruhl (2013) Methodology

I follow the procedure developed in Kehoe and Ruhl (2013) to measure the extensive margin in Austrian trade at the goods-level, the so-called new goods margin. The goods data are annual trade flow data between Austria and the ten entrants to the EU measured as HS 6 codes, i.e. I consider each code a good. One of the strengths of this approach is that data are readily available for a large number of countries. The data I use on Austria and the EU entrants are from the EU's *ComExt Database*. Since growth in the extensive margin of trade measures when goods switch from being non-traded to traded from one period to the next, what it means for a good to be non-traded in the codes data needs to be defined. Feenstra (1994), Hummels and Klenow (2005), and Broda and Weinstein (2006) define goods with a trade value of \$0 as non-traded, whereas Evenett and Venables (2002) sets a cut-off of \$50,000 or below. As Kehoe and Ruhl (2013) points out, however, applying a fixed cut-off generates a number of concerns. Customs officials often do not require firms to report small value shipments, so zeros in the trade flow data might not actually reflect the true trade flow. Large countries report fewer zeros due purely to size. Applying the same fixed cut-off across countries does not account for differences in the relative importance of a good in a country's trade. Instead of using a fixed cut-off, Kehoe and Ruhl (2013) allows the dollar value of the cut-off to vary across countries by defining non-traded goods by their relative importance, or unimportance, in a country's trade.

In order to analyze the new goods margin over a particular sample period for a bilateral trade flow, I follow Kehoe and Ruhl (2013) by first ordering the codes from smallest to largest trade value. Then, I cumulate the codes and partition the data into ten bins, each representing 10% of the value of the total trade flow at the beginning of the sample period. Some codes are split across bins to exactly match 10% of the trade flow. The first bin of codes represents the set of *least-traded goods*. Least-traded goods can include goods reported with zero trade value or goods traded in some positive amount. The set of least-traded goods defined in this way is the analogue in Kehoe and Ruhl (2013) of the set of non-traded goods determined by a fixed cut-off. The ordering of the codes is not sensitive to the choice of the base year, because I order the codes based on the average trade of the first three years of the sample period. Kehoe and Ruhl (2013) analyzes the data in two ways. The first measures the trade share of each

bin at the beginning, by definition 10%, and end of the sample period, which shows how the distribution of goods in the trade flow changes over time. The second tracks the trade share of the set of least-traded goods over the entire sample period, which captures changes in the new goods margin. This time series measure is useful for identifying the impact of shocks or policy changes, such as trade liberalizations, on the new goods margin.

In the appendix, I address some of the concerns about my methodology. Although the caveat about reported zeros in customs data remains, I nevertheless report the number of goods with zero trade in the first three years of the sample period and the share of trade these goods account for after EU enlargement in 2009. On average, these goods account for a much smaller, but still significant, share of overall trade than does the set of least traded goods. I also redo the paper's analysis using 5% bins for a robustness check. The magnitudes of the paper's results shift down because the set of least traded goods is now smaller, but the results are qualitatively the same.

3 Results

I organize my analysis of Austrian trade with the EU entrants around such a change, namely the 2004 enlargement of the EU. In order to identify the effects of EU entrance, I define the sample period as 1999-2009, five years before and after the year of enlargement. This sample period is similar in length to the sample periods considered in Kehoe and Ruhl (2013).

I discuss my results by considering, first, exports to and, second, imports from the four EU entrants sharing a border with Austria (Czech Republic, Hungary, Slovakia, and Slovenia).⁶ These countries represent four of the top five trading partners by volume out of the ten EU entrants, Poland being the fifth country in the top five. I then present a condensed version of the results for the trade flows between Austria and the remaining EU entrants (Cyprus, Estonia, Latvia, Lithuania, Malta, and Poland).

⁶Dividing my discussion into bordering and non-bordering countries is somewhat artificial, but I make the division for both stylistic reasons and space considerations. I only show detailed results for Austria's immediate neighbors.

3.1 Austrian Exports to Border Countries

I begin by analyzing how the distribution of goods in Austrian exports changes over time. Figures 1 - 4 show the changes from 1999 to 2009 in the distribution of goods being exported from Austria to the Czech Republic, Hungary, Slovakia, and Slovenia. The x-axes measure the cumulative fraction of the 1999 export value. Each of the bars coincides with a bin consisting of goods ordered based on the average trade value for the years 1999-2001. Since each bin represents exactly 10% of the 1999 export value, cumulating from left to right always increases the fraction by 0.1. Of course, the set of least-traded goods is then the first bar. The y-axes measure the fraction of 2009 export value. The horizontal black lines at 0.10 show the height of each bar had there been no changes to the distribution of goods from 1999 to 2009. The number over each bar designates the number of goods in each bin. The results in Kehoe and Ruhl (2013) suggest the set of least-traded goods typically consists of a large number of goods. The least-traded goods in Austrian exports to its border countries are consistent with this finding. Given the large number of least-traded goods, there is potential for large growths in trade along the new goods margin.

A clear pattern emerges from figures 1 - 4: significant growth along the new goods margin occurs. The set of least-traded goods grows from 10% of Austrian exports in 1999 to 36% (Czech Republic), 45% (Hungary), 47% (Slovakia), and 35% (Slovenia) in 2009. Overall, figures 1 - 4 suggest growth in the share of those goods traded less. Only three out of the nine bins experiencing growth were the sixth bin or higher. The other six bins experiencing growth were all from the first three bins. The four sets of least-traded goods, however, experienced the most growth.

How much does the new goods margin contribute to the overall growth in exports from Austria to its border countries? Answering this question will show how important the extensive margin is relative to the intensive margin for overall trade growth. In order to do so, I follow the decomposition method used in Kehoe and Ruhl (2013). Although Kehoe and Ruhl (2013) finds the new goods margin contributes significantly to overall trade growth, the contribution is typically much smaller than that from the intensive margin. For example, on average, nearly 10% of the growth in overall trade between NAFTA country pairs comes from the new goods

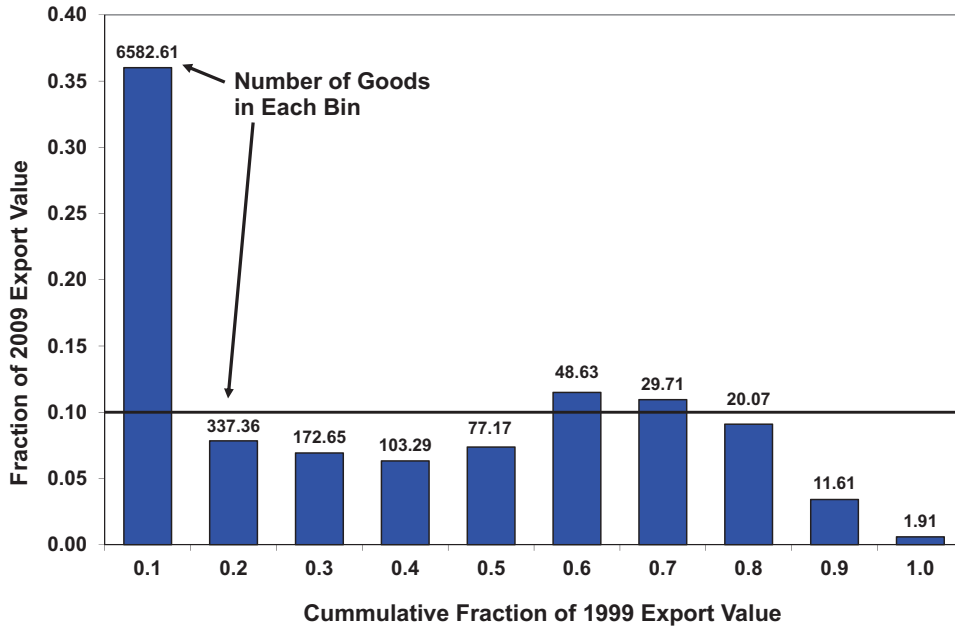


Figure 1: Composition of Exports: Austria to Czech Republic

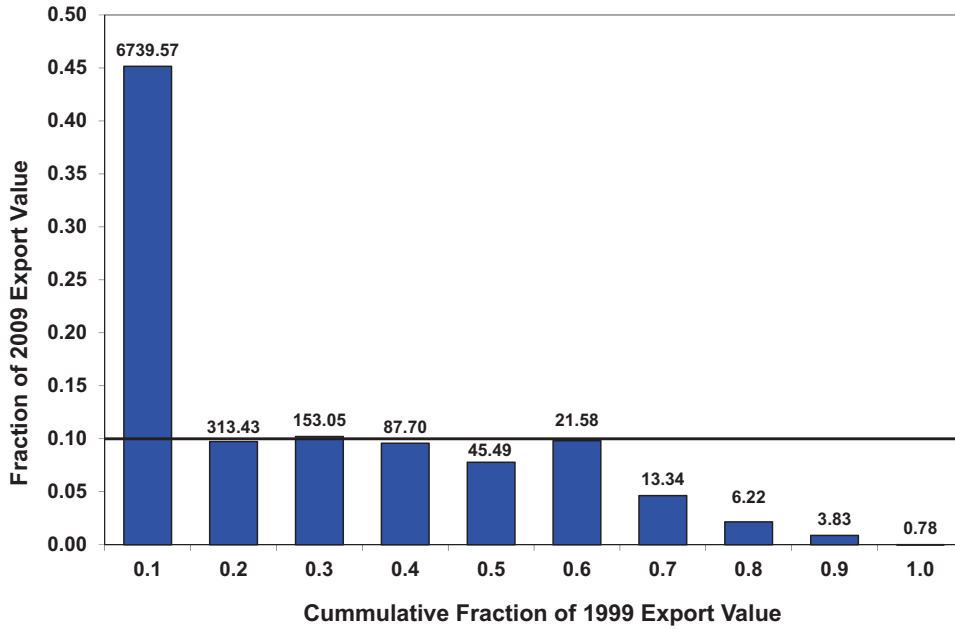


Figure 2: Composition of Exports: Austria to Hungary

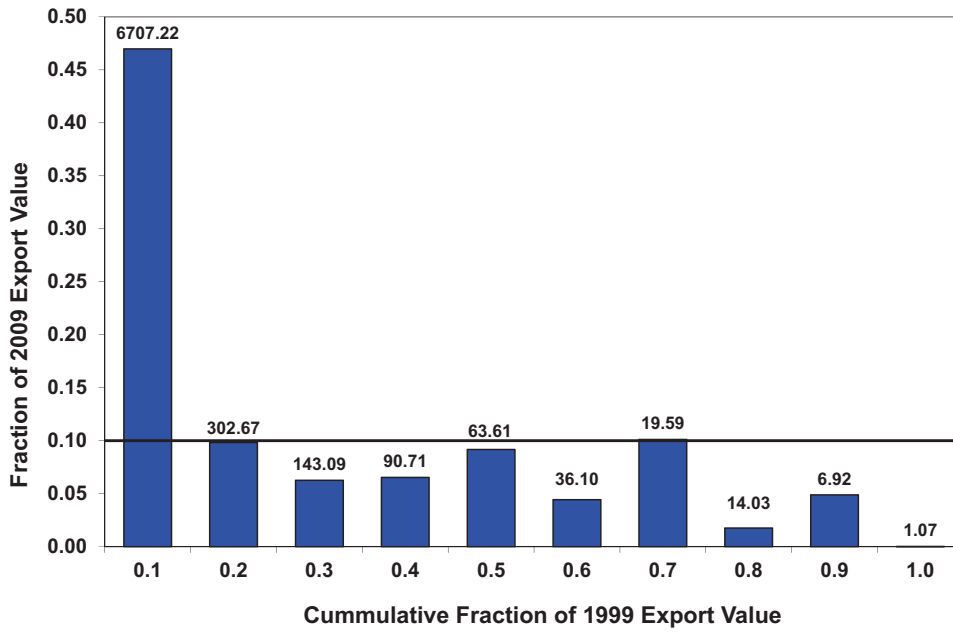


Figure 3: Composition of Exports: Austria to Slovakia

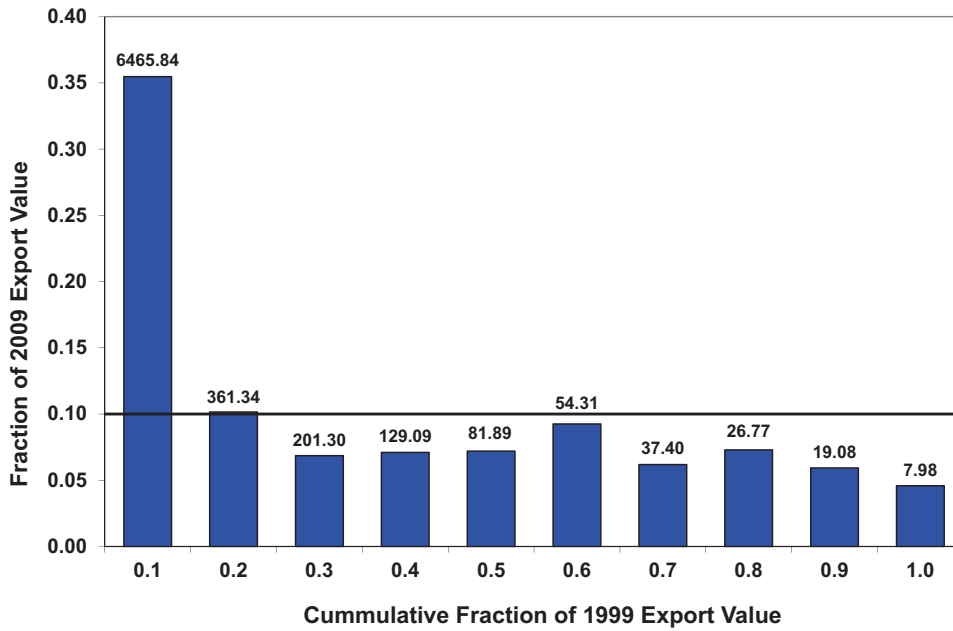


Figure 4: Composition of Exports: Austria to Slovenia

margin. The new goods margin contributes significantly more to the growth in trade between Austria and the 2004 entrants to the EU. Returning to Austrian exports to its border countries, I find growth along the new goods margin accounts for nearly 60% of the growth in trade. The contribution to overall growth from growth in the new goods margin ranges from 42% (Austrian exports to the Czech Republic) to 100% (Austrian exports to Hungary). The intensive margin actually contracted in Austrian exports to Hungary, which is why growth in the new goods margin contributes 100% to the growth in trade. On average, the intensive margin contributes the remaining 40% of overall growth in Austrian exports to its border countries. The large contribution to overall trade growth from the new goods margin will be a feature of all of the remaining trade flows I analyze.

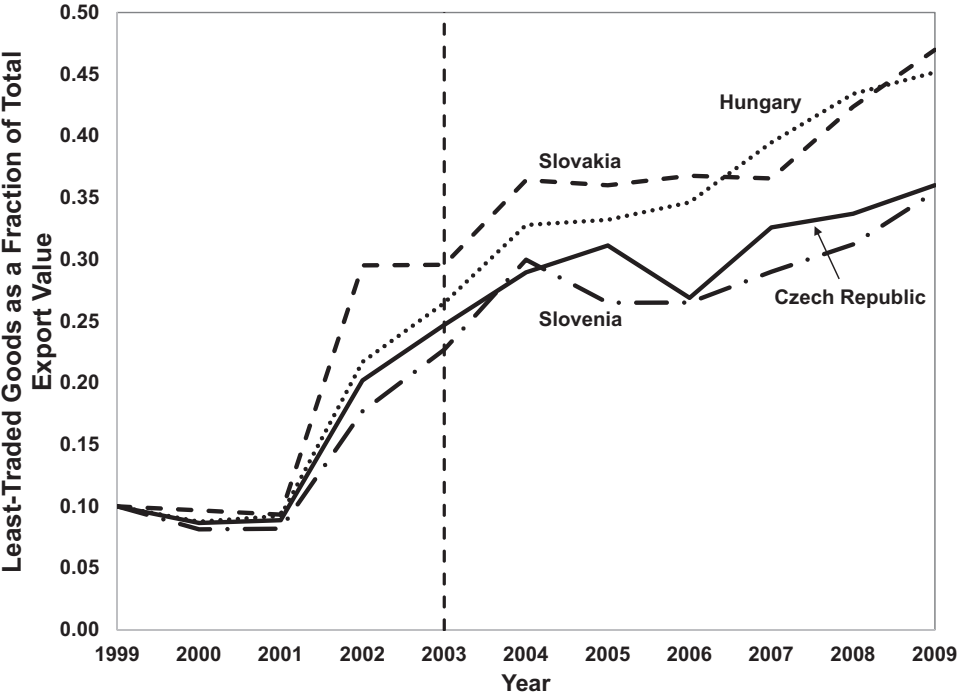


Figure 5: Austrian Exports to Border Countries

Figures 1 - 4 say nothing about the specific timing of the growth in the new goods margin in Austrian exports to its border countries. Figure 5, however, tracks the change in the share of least-traded goods in each of the four bilateral trade flows. Since EU enlargement occurred during the first half of the year on May 1, 2004, the vertical dotted line at the year 2003 marks the

point after which the effects of enlargement should have been fully felt. The figure suggests the period surrounding EU enlargement coincided with an immediate impact on the growth of the set of least-traded goods. The growth begins a couple of years before enlargement and continues throughout the sample period. The timing of the impact of EU enlargement on the new goods margin in Austrian exports is consistent with the findings in Kehoe and Ruhl (2013). Kehoe and Ruhl (2013) finds the increase in the shares of least-traded goods in Canadian exports to Mexico and Mexican exports to Canada coincides with the implementation of NAFTA in 1994, for example. For these NAFTA trade flows, the shares of the least-traded goods begin increasing a couple of years before NAFTA and then continue throughout the sample period, as I find for the case of Austria and EU enlargement. The overall growth in the shares of least-traded goods in Austrian exports to the Czech Republic and Slovenia is also comparable with the magnitudes of growth seen in the bilateral trade flows between the pairs of NAFTA countries, whereas that for Hungary and Slovakia is higher. Based on the analysis of Austrian exports to its border countries, the new goods margin already seems to have played an important role in changing trade flows after EU enlargement. I now turn to examining Austrian imports from its border countries.

3.2 Austrian Imports from Border Countries

Figures 6 - 9 show the same measure of the distribution of goods for the case of Austrian imports as figures 1 - 4 do for exports. The pattern emerging from Austrian imports from its border countries is similar to its exports in that the set of least-traded goods experiences significant growth. The least-traded goods grow from 10% of Austrian imports in 1999 to 34% (Czech Republic), 45% (Hungary), 66% (Slovakia), and 37% (Slovenia) in 2009. There are noticeable differences between the Austrian export and import flows. Growth in the least-traded imports is higher than exports, averaging 46% in 2009 compared to 41%. In all cases except the Czech Republic, the least-traded imports either match or exceed the share of least-traded exports in 2009. The magnitudes of the growth for the export and import flows are still fairly similar, though, in the cases of the Czech Republic, Hungary, and Slovenia. The growth in the least-traded goods in Austrian imports from Slovakia is an exception, being nearly twice as large as any of the other growth levels. The last difference between the Austrian export and import

flows corresponds to the number of goods in the sets of least-traded goods. For all countries, the number of least-traded goods in Austrian imports exceeds that in Austrian exports, 6,624 goods compared to 7,027, on average.

In general, comparing figures 1 - 4 with figures 6 - 9 suggests two main potential differences between the sets of least-traded goods in Austrian exports and imports. First, the growth in least-traded goods is greater for Austrian imports. It turns out the Czech Republic is the only exception to this first general result out of all the EU enlargement countries, not just out of the countries bordering Austria. Second, the number of least-traded goods is larger for Austrian imports. Both of these regularities are consistent with the idea that more Austrian goods were competitive internationally and already traded, while more goods from enlargement countries required better access to EU markets to be imported. I confirm these results for the other EU enlargement countries in section 3.3.

I perform the same decomposition of overall trade growth as I did for the case of Austrian exports to its border countries. Again, on average, the new goods margin accounts for the majority of trade growth but contributes a larger percentage of the growth at 75%, while the intensive margin contributes the remaining 25%. These averages are only over Austrian imports from the Czech Republic, Slovakia, and Slovenia, because Austrian imports from Hungary is the only bilateral trade flow I consider that actually shrinks in 2009 compared to 1999.

Turning to the impact of EU enlargement on the new goods margin in Austrian imports, figure 10 tracks the share of least-traded goods over the period 1999-2009. The overall message from figure 10 resembles that for Austrian exports in figure 5: significant growth along the new goods margin clearly occurred during the period surrounding EU enlargement. Like Austrian exports, the share of least-traded goods in imports begins increasing a couple of years before enlargement and continues throughout the sample period. However, the results for Austrian imports appear less uniform across the border countries due to the experience of Slovakia. As stated above, the share of least-traded goods in imports from Slovakia increases significantly more than in imports from the other three border countries. The leveling off of the series for Slovakia towards the end of the period likely occurs because little room remains for growth in the share of least-traded goods. The case of imports from Slovakia better resembles the cases of the remaining EU entrants, which I describe next.

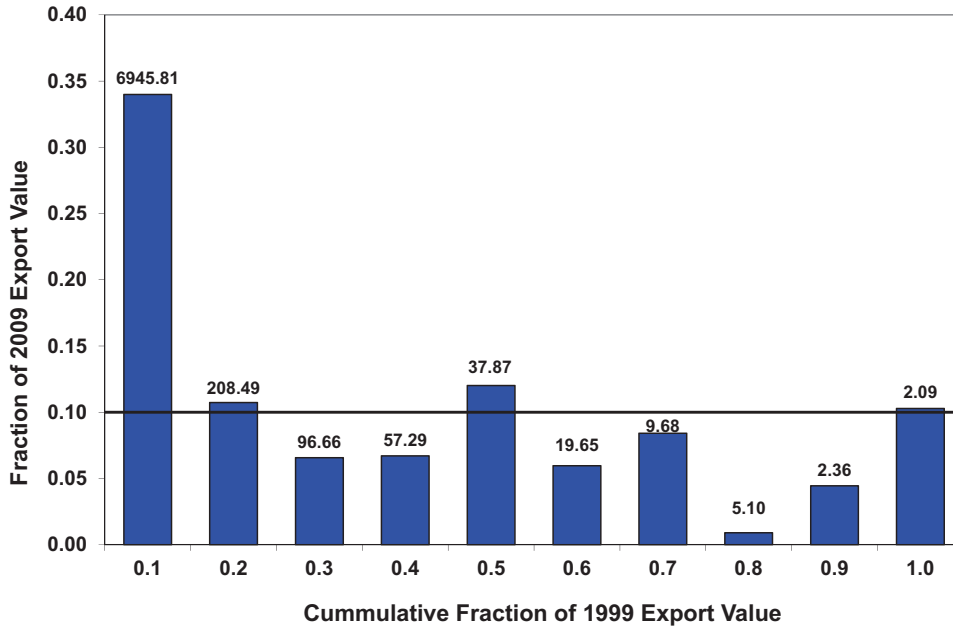


Figure 6: Composition of Exports: Czech Republic to Austria

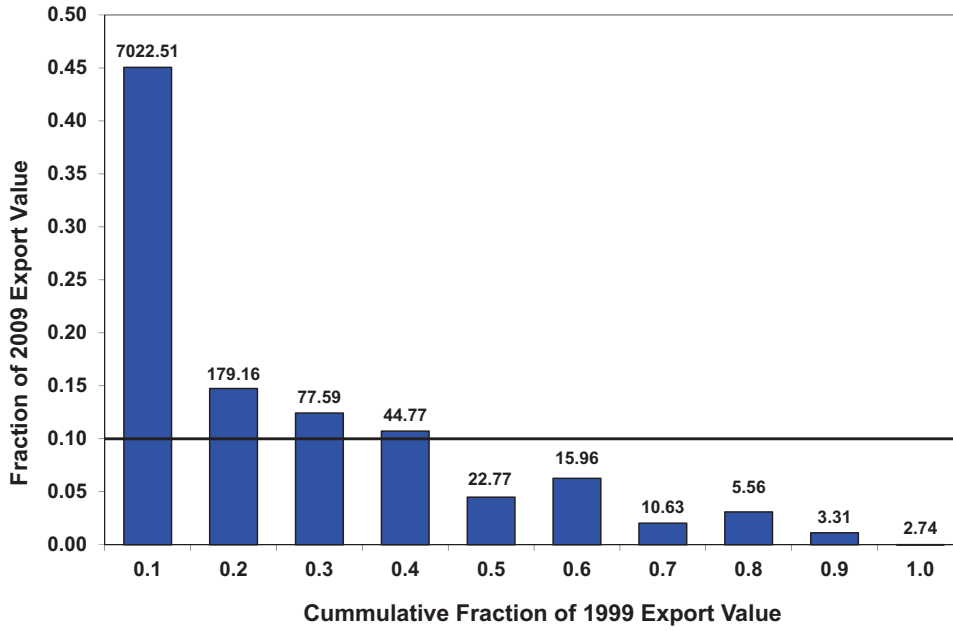


Figure 7: Composition of Exports: Hungary to Austria

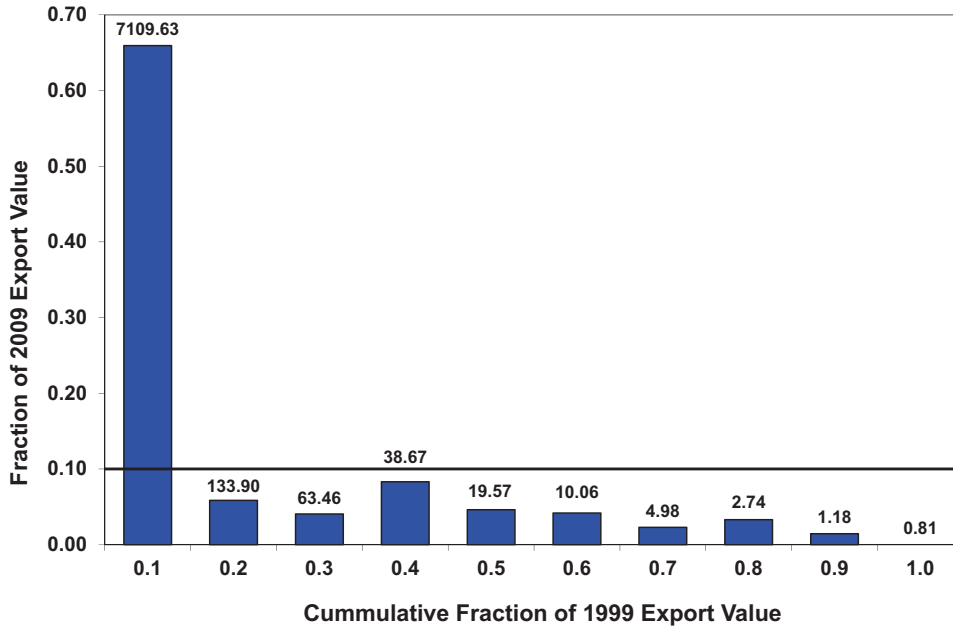


Figure 8: Composition of Exports: Slovakia to Austria

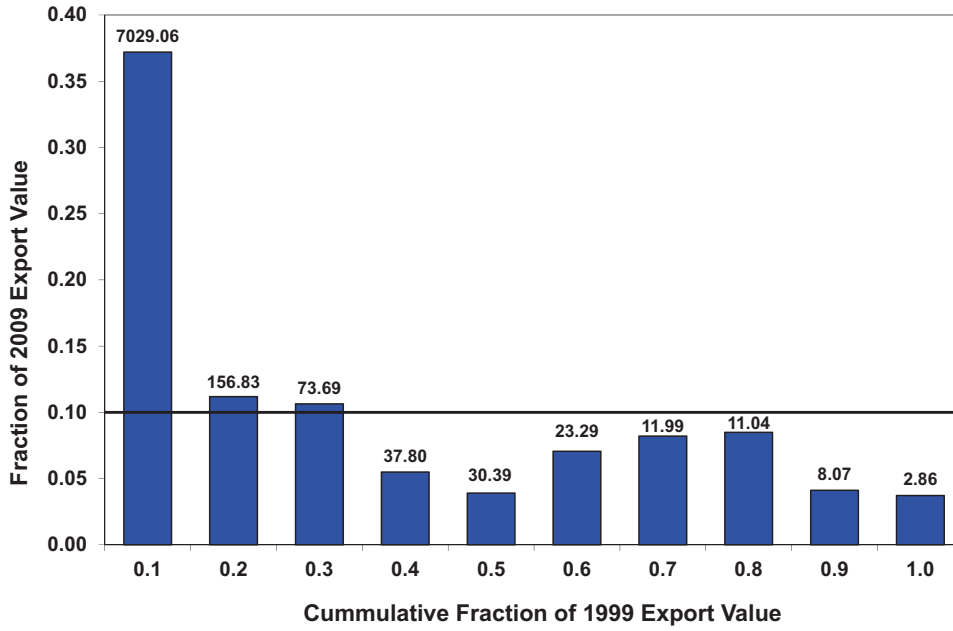


Figure 9: Composition of Exports: Slovenia to Austria

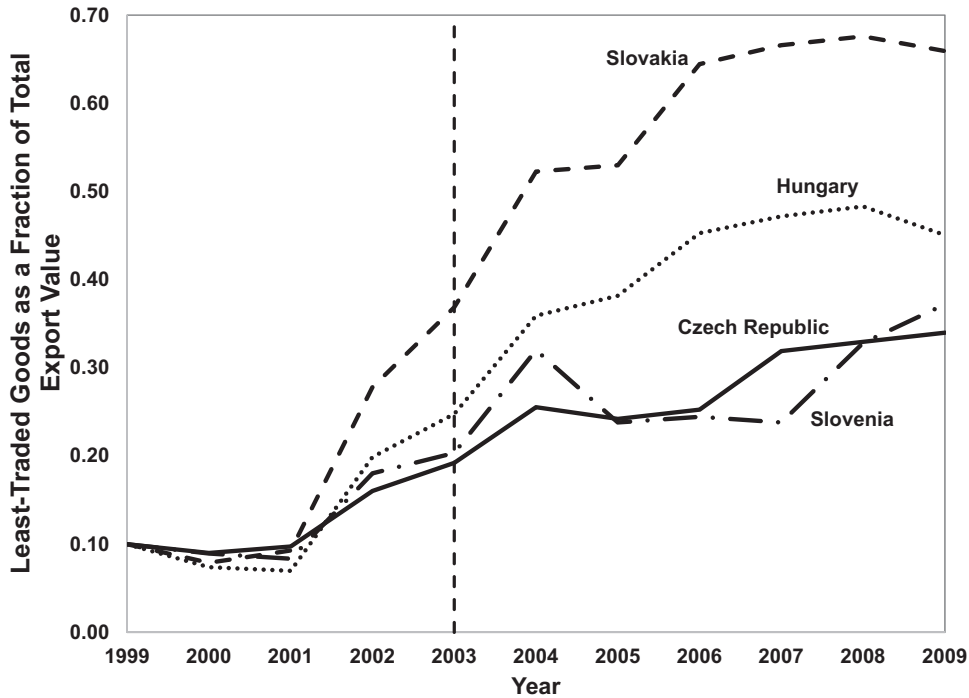


Figure 10: Border Country Exports to Austria

3.3 Austrian Trade with the Remaining EU Entrants

The growth in trade along the new goods margin between Austria and the remaining EU entrants (Cyprus, Estonia, Latvia, Lithuania, Malta, and Poland) resembles the pattern between Austria and its border countries but is of a much higher magnitude. Tables 1 and 2 present the evolution of the shares of least-traded goods in Austrian exports to and imports from the remaining EU entrants. As reference, I also include the shares of least-traded goods from figures 5 and 10 for Austrian trade with the border countries. Both Austrian exports to and imports from the remaining EU entrants experience significant growth along the new goods margin. Table 1 shows the sets of least-traded goods grow from 10% of Austrian exports in 1999 to 61% (Cyprus), 57% (Estonia), 51% (Latvia), 52% (Lithuania), 61% (Malta), and 43% (Poland) in 2009, reaching a mean of 54% across the countries in 2009. This compares with a mean of 41% in 2009 for the set of least-traded goods in Austrian exports to its border countries. Austrian imports experience even larger growth in the new goods margin than Austrian exports, which is consistent with the

Table 1: Share of Least-Traded Goods

Austrian Exports to...										
Year	Cyprus	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Malta	Poland	Slovakia	Slovenia
1999	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
2000	0.08	0.09	0.09	0.09	0.12	0.11	0.06	0.09	0.10	0.08
2001	0.09	0.09	0.09	0.09	0.09	0.11	0.05	0.08	0.09	0.08
2002	0.66	0.20	0.15	0.22	0.36	0.26	0.26	0.21	0.30	0.18
2003	0.56	0.25	0.18	0.26	0.36	0.27	0.29	0.24	0.30	0.23
2004	0.42	0.29	0.37	0.33	0.43	0.39	0.49	0.27	0.36	0.30
2005	0.56	0.31	0.70	0.33	0.39	0.61	0.58	0.32	0.36	0.26
2006	0.48	0.27	0.44	0.35	0.39	0.55	0.89	0.33	0.37	0.27
2007	0.52	0.33	0.56	0.39	0.39	0.55	0.64	0.38	0.37	0.29
2008	0.55	0.34	0.60	0.43	0.43	0.61	0.51	0.42	0.42	0.31
2009	0.61	0.36	0.57	0.45	0.51	0.52	0.61	0.43	0.47	0.35

Table 2: Share of Least-Traded Goods

Austrian Imports from...										
Year	Cyprus	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Malta	Poland	Slovakia	Slovenia
1999	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
2000	0.07	0.09	0.11	0.07	0.10	0.10	0.07	0.10	0.08	0.09
2001	0.13	0.10	0.12	0.07	0.08	0.19	0.05	0.10	0.09	0.08
2002	0.33	0.16	0.19	0.20	0.18	0.40	0.12	0.19	0.28	0.18
2003	0.36	0.19	0.57	0.25	0.31	0.55	0.22	0.23	0.37	0.20
2004	0.94	0.26	0.55	0.36	0.43	0.71	0.54	0.28	0.52	0.32
2005	0.88	0.24	0.65	0.38	0.58	0.58	0.90	0.34	0.53	0.24
2006	0.91	0.25	0.56	0.45	0.65	0.63	0.94	0.36	0.64	0.24
2007	0.87	0.32	0.63	0.47	0.85	0.83	0.88	0.42	0.67	0.24
2008	0.96	0.33	0.76	0.48	0.79	0.82	0.93	0.43	0.68	0.33
2009	0.85	0.34	0.79	0.45	0.80	0.82	0.61	0.55	0.66	0.37

pattern between Austria and its border countries, the Czech Republic being the sole exception. Table 2 shows the sets of least-traded goods grow from 10% of Austrian imports in 1999 to 85% (Cyprus), 79% (Estonia), 80% (Latvia), 82% (Lithuania), 61% (Malta), and 55% (Poland) in 2009. The mean share of the least-traded goods in 2009 across these countries is 74%, which, again, exceeds the mean of 46% in 2009 across the border countries. The number of least-traded goods is also larger for Austrian imports from the remaining EU entrants than Austrian exports to these countries. The sets of least-traded goods for Austrian imports from Cyprus, Estonia, Latvia, Lithuania, Malta, and Poland contain more than 97% of the HS 6 codes. There was not

much of a trade flow from these countries to Austria at the beginning of the period I consider. It should be no surprise then that after a trade liberalization the new goods margin would change so dramatically. Indeed, tables 1 and 2 show the period surrounding EU enlargement coincides with significant increases in the shares of least-traded goods in the trade flows between Austria and the remaining EU entrants. Lastly, the new goods margin contributes more to overall trade growth in the case of the remaining entrants than the border countries. On average, nearly 82% of the growth in Austrian exports to the remaining EU entrants comes from the new goods margin, whereas this figure increases to 86% for Austrian imports from the remaining EU entrants.

Tables 1 and 2 also suggest country size may be important in determining how much growth occurs along the new goods margin of trade. Likewise, the market penetration cost theory of Arkolakis (2010) may shed light on the results. Before EU enlargement, market penetration was higher between Austria and the bordering entrants than between Austria and the remaining entrants, as measured by the number of goods in the set of least traded goods. The model in Arkolakis (2010) predicts goods with low volumes of trade should grow more after a trade liberalization, so the more of these goods there are in the set of least traded goods, the more growth along the new goods margin should occur.

4 Conclusion

Using the methodology developed in Kehoe and Ruhl (2013), I analyze the growth in the extensive, or new goods margin, of trade between Austria and the ten entrants to the EU following its expansion in 2004. My results corroborate those in Kehoe and Ruhl (2013). In addition to the new goods margin clearly playing a significant role in changing the trade flows between Austria and its border countries, the analysis of the trade flows between Austria and the remaining EU entrants provides even stronger evidence for the importance of the new goods margin. After EU enlargement, the new goods account for on average 56% of the trade flows I consider, ranging from 34% for Austrian imports from the Czech Republic to 85% of Austrian imports from Cyprus. My time series measure indicates growth in the new goods margin coincides with the period surrounding the 2004 enlargement of the EU.

In terms of the trade data, the hype surrounding the historic nature of the 2004 enlargement seems justified. These results suggest economists should strongly consider models with extensive margins, such as the one developed in Arkolakis (2010), when analyzing the effects of trade liberalizations. Also, policy-makers interested in the trade effects of future enlargement of the EU should consider the results presented in this paper. Any enlargement including, for example, countries comprising former Yugoslavia would potentially see the same types of patterns emerge as the ones identified here for the countries involved in the 2004 enlargement. My results suggest growth along the new goods margin would be both large and economically significant.

A Appendix

A.1 Zeros

As I describe in the body of the paper, the methodology I use is designed to address some of the shortcomings with using fixed cutoffs in constructing the set of non-traded goods. Nonetheless, table A.1 reports the number of goods with zero trade value in the base period for each of the twenty trade flows I consider and the share of trade in 2009 they come to represent. On average, the zeros in the base period account for 34% of the trade flows after EU enlargement. The range, however, is great, from 11% of Austrian imports from the Czech Republic to 74% of Austrian imports from Cyprus.

Table A.1: Zeros

Austrian Exports to...										
	Cyprus	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Malta	Poland	Slovakia	Slovenia
# of Base Period Zeros	474	689	576	668	480	672	320	739	798	642
Share of Trade Flow in 2009	0.37	0.18	0.28	0.20	0.24	0.26	0.52	0.24	0.22	0.17
Austrian Imports from...										
# of Base Period Zeros	172	550	222	508	244	226	124	645	714	637
Share of Trade Flow in 2009	0.74	0.11	0.58	0.16	0.48	0.65	0.54	0.22	0.46	0.18

A.2 5% Bins

In this section, I conduct a robustness check of the results by redoing the entire analysis of the paper using 5% bins, i.e. the set of *least traded goods* now consists only of the smallest goods by trade volume that make up 5% of the trade flow in the base period. I do not reproduce all the figures from the paper for space considerations. Tables A.2 and A.3 present the results for all twenty bilateral trade flows I consider in the paper. Using 5% bins does not change the results qualitatively, but the magnitudes of the changes in the new goods margins are shifted down to reflect the smaller size of the 5% bins. Whereas, on average, the new goods account for 56% of the trade flow after EU enlargement using 10% bins, using 5% bins drops this measure down to 49%. A significant share of the trade flows are accounted for by these least *least traded goods*.

Table A.2: Share of Least-Traded Goods Using 5% Bins

Austrian Exports to...										
Year	Cyprus	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Malta	Poland	Slovakia	Slovenia
1999	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
2000	0.04	0.04	0.04	0.04	0.05	0.05	0.03	0.04	0.05	0.04
2001	0.03	0.04	0.04	0.05	0.05	0.05	0.03	0.04	0.04	0.04
2002	0.64	0.15	0.11	0.16	0.31	0.20	0.21	0.16	0.25	0.14
2003	0.50	0.20	0.14	0.21	0.30	0.23	0.26	0.19	0.24	0.19
2004	0.33	0.24	0.31	0.27	0.36	0.32	0.46	0.21	0.28	0.25
2005	0.32	0.26	0.65	0.26	0.35	0.55	0.50	0.24	0.29	0.20
2006	0.28	0.22	0.40	0.27	0.35	0.44	0.87	0.24	0.30	0.21
2007	0.44	0.28	0.51	0.32	0.35	0.46	0.55	0.30	0.29	0.23
2008	0.46	0.29	0.48	0.37	0.37	0.49	0.44	0.35	0.36	0.26
2009	0.51	0.29	0.51	0.38	0.43	0.41	0.59	0.37	0.38	0.29

Table A.3: Share of Least-Traded Goods Using 5% Bins

Austrian Imports from...										
Year	Cyprus	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Malta	Poland	Slovakia	Slovenia
1999	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
2000	0.03	0.05	0.04	0.03	0.07	0.07	0.03	0.05	0.04	0.04
2001	0.07	0.05	0.04	0.03	0.04	0.11	0.02	0.04	0.05	0.04
2002	0.29	0.11	0.14	0.15	0.11	0.30	0.09	0.13	0.24	0.14
2003	0.35	0.14	0.54	0.20	0.22	0.42	0.21	0.16	0.33	0.16
2004	0.89	0.21	0.51	0.30	0.32	0.62	0.54	0.21	0.47	0.27
2005	0.88	0.20	0.60	0.33	0.41	0.55	0.90	0.27	0.48	0.18
2006	0.89	0.21	0.51	0.38	0.54	0.55	0.94	0.29	0.60	0.19
2007	0.87	0.28	0.58	0.38	0.75	0.78	0.88	0.36	0.61	0.18
2008	0.95	0.29	0.66	0.39	0.68	0.77	0.93	0.38	0.63	0.27
2009	0.84	0.30	0.72	0.36	0.67	0.79	0.61	0.48	0.60	0.32

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