UNIVERSITY OF WUPPERTAL
BERGISCHE UNIVERSITÄT WUPPERTAL

EUROPÄISCHE WIRTSCHAFT UND
INTERNATIONALE MAKROÖKONOMIK

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Environmental Policy Stringency and Foreign Direct Investment: New Insights from a Gravity Model Approach

EIIW Diskussionsbeitrag 294
EIIW Discussion Paper 294

Europäische Wirtschaft und Internationale Wirtschaftsbeziehungen
European Economy and International Economic Relations

ISSN 1430-5445
EIIW Discussion Papers are registered with RePEc-Econ Papers and in ECONIS

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April 17th 2021

Herausgeber/Editor: Prof. Dr. Paul J.J. Welfens, Jean Monnet Chair in European Economic Integration

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JEL classification: F21, Q43, Q50, Q58, C23
Key words: FDI, Pollution Haven Countries, OECD, Gravity Modelling, Environmental Policy

Summary:

There is a long debate about potential pollution haven effects existing in the global North and South in the context of rising environmental stringency. This contribution takes a fresh look at intra-OECD foreign direct investment and employs a modern FDI gravity modelling approach to shed more light on these issues. There is clear evidence in favor of the pollution haven hypothesis – countries with weaker environmental policy and regulation are able to attract relatively high FDI inflows so that new challenges for environmental policy and international cooperation in environmental policy have to be considered. As regards environmental policy, more political cooperation between the OECD countries seems to be required in order to prevent or mitigate "quasi-carbon leakage" effects from undermining the effectiveness of environmental and climate policy. The evidence obtained from this analysis of OECD countries suggests the benefit of extending this research in future to other country groups, to include countries in Asia or Latin America and Africa.

Zusammenfassung:

Es gibt eine lange Debatte über potenzielle Pollution Haven-Effekte, die im globalen Norden und Süden im Kontext steigender Umweltauflagen bestehen. Dieser Beitrag wirft einen neuen Blick auf die ausländischen Direktinvestitionen innerhalb der OECD und verwendet einen modernen FDI-Gravitationsmodellierungsansatz, um mehr Licht auf diese Fragen zu werfen. Es gibt klare Belege für die „Pollution Haven"-Hypothese – Länder mit schwächerer Umweltpolitik und -regulierung sind in der Lage, relativ hohe FDI-Zuflüsse anzuziehen, so dass neue Herausforderungen für die Umweltpolitik und die internationale Kooperation in der Umweltpolitik zu berücksichtigen sind. In Bezug auf die Umweltpolitik scheint eine stärkere politische Zusammenarbeit zwischen den OECD-Ländern erforderlich zu sein, um zu verhindern bzw. abzuschwächen, dass „Quasi-Carbon Leakage"-Effekte die Wirksamkeit der Umwelt- und Klimapolitik untergraben. Die aus dieser Analyse der OECD-Länder gewonnenen Erkenntnisse legen nahe, diese Untersuchung in Zukunft auf andere Ländergruppen auszuweiten, um Länder in Asien oder Lateinamerika und Afrika einzubeziehen.

Acknowledgements: We gratefully acknowledge both encouragement and comments from Fabian Baier as well as editorial support by David Hanrahan (EIIW/University of Wuppertal)

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Table of Contents

List of Figures

List of Tables

1. Introduction

Environmental policy, including climate policy, has established itself as the subject of a broad debate in the fields of academia, politics and society. Movements such as the Fridays for Future network, to take just one prominent example which has garnered the support of many scientists, push for more stringent environmental policy in order to achieve a 'greener' present and future (see, for example, Hagedorn et al., 2019) stand in stark contrast to the economic and ideological forces which favor deregulation and a maintaining of the status quo, respectively. The administration of former US President Donald Trump had indeed pushed a policy of environmental deregulation since from the very beginning of his presidential term (e.g., Popovich et al., 2018). Besides the environmental and ecological impact such policies – in either direction – might have, environmental policies are also likely to be central factors in terms of economic development and prosperity (Albrizio et al., 2014); ambitious environmental policy might go along with higher costs for companies and higher taxation for households or firms, but is also linked to a rise of per capita income as the demand for a clean(er) environment is a positive function of national income per worker. Foreign direct investment (FDI) is a crucial element to consider in a broader open economy perspective since multinational companies might want to relocate production to countries with relatively weaker environmental standards in certain sectors so that FDI could be attracted by modest environmental standards which lower production costs – this is the so-called "pollution haven hypothesis".

An alternative view is that FDI flows are indeed enhanced by rather strict environmental regulation, as foreign multinationals could – for example – expect to rather easily tap the pool of advanced clean technology in the respective host country. A particular and possibly related aspect is that FDI outflows – raising per capita GDP in host countries - will generate a rising demand for a clean environment in host countries, an aspect which is supported by the empirical evidence of Letchumanan and Kodama (2000).

As regards the findings for Latin American countries, it is interesting to note that one finds empirical evidence for the pollution haven hypothesis on the one hand and for the Environmental Kuznets Curve (EKC) on the other – within panel fixed and random effects models that control for various other economic variables (Sapkota and Bastola, 2017). It is clear that in Latin American countries, US multinationals in particular play a major role. An additional finding of the authors is that policies which focus on attracting clean and energy efficient industries through FDI can potentially improve environmental progress while raising output growth in Latin America. The findings, however, could be different if only OECD countries are considered since the intra-OECD per capita income variance is smaller than for a broader sample which covers countries from the North and South of the world economy.

Policymakers in OECD countries have been putting into action a number of environmental policies since the 1990s (Albrizio et al., 2014). Based on data provided by the OECD and utilizing a gravity modeling approach, this study aims to answer the question of what impact environmental policy stringency (EPS) might have on the specific economic dynamics of intra-OECD FDI. One may emphasize that intra-OECD foreign direct investment has dominated global foreign investment for decades and that the OECD countries stand for an implicit club

of rather industrialized countries which compete for mobile investment within the OECD countries (UNCTAD, 2020; see Tab. 1).

Table 1: Share of OECD Inward FDI Flows in Total Global FDI Flows and Share of OECD Outward FDI Flows in Total Outward FDI Flows

Year	Inward FDI Flows		Outward FDI Flows	
	$ millions	*% of total world*	*$ millions*	*% of total world*
1970	9907,97	74,7	14100,45	99,7
1980	49242,50	90,5	49446,96	94,9
1990	175024,22	85,4	232075,05	95,2
1995	234497,44	68,8	308680,59	86,5
2000	1150150,10	84,8	1081288,05	92,9
2005	604373,77	63,8	707262,16	84,9
2006	957502,69	68,2	1132540,89	83,8
2007	1288760,40	68,1	1863465,82	85,9
2008	816634,66	54,8	1378554,30	80,5
2009	683870,53	55,3	876782,59	74,2
2010	726352,66	52,0	1007237,28	72,2
2011	880681,03	54,5	1202516,14	73,9
2012	754279,26	50,5	919964,83	70,5
2013	771930,18	53,0	964451,90	67,9
2014	680857,33	48,5	836855,22	61,2
2015	1318304,02	64,6	1295666,67	75,9
2016	1312627,90	66,2	1141975,29	74,0
2017	993484,52	58,4	1135246,70	70,9
2018	809170,11	54,1	592520,12	60,1
2019	827098,58	53,7	965969,31	73,5

Source: own representation based on UNCTAD (2020).

On the other hand, it is also noteworthy that most OECD countries have an economic system with rather strong innovation capabilities so that ambitious environmental policy might also stimulate more green research and development (R&D) which in turn contributes to higher overall innovation dynamics. *A priori* it is not very clear just what the links between environmental progress/policy and FDI inflows really are.

Foreign direct investment is one of the contributing factors for the growth and development of an economy, alongside other factors such as product and process innovations. This study focuses on the aggregate perspective of FDI flows amongst OECD countries in the context of environmental policy and environmental protection. Based on a gravity model and PPML estimations, as well as an indicator for environmental policy stringency (EPS) developed by Botta and Koźluk (2014), we find empirical evidence that more rigorous environmental policy is a significant determinant of decreased FDI inflows for OECD countries. These results suggest that there is an incentive for investment in countries with more lax environmental protection standards even within the OECD, and might, therefore, provide empirical support for the pollution haven hypothesis. Moreover, to the extent that technological developments such as the digitalization of the economy makes investment increasingly mobile in an international perspective, there is a risk that the rise of international FDI in OECD countries could undermine environmental progress and steps towards more sustainability and the stabilization of the climate, respectively. While rising FDI stock-GDP ratios could indicate more intensive international technology transfers and hence – along with FDI-based capital accumulation

effects in the context of greenfield investment – a positive impulse for real per capita Gross Domestic Product (GDP) and possibly also higher per capita Gross National Product (GNP), slower prospects for progress in sustainability and climate protection could be a negative contribution to individual economic-ecological welfare. An in-depth, thorough examination of the mechanics of a potential negative link between inward FDI stocks and a weakening of environmental policy stringency is beyond the scope of the present paper; one can say that there can be economic linkages as well as potential lobbying effects: Such as affiliates in host countries becoming increasing influential politically-speaking and trying to weaken environmental goals and regulations in the host country, respectively.

The study presented is structured as follows. A brief review of the literature is offered in Section 2. The theoretical framework to be applied is discussed in Section 3. Section 4 presents the empirical findings. Section 5 concludes with a presentation of key policy implications.

2. Literature Review

2.1. FDI

From the perspective of policymakers and in the literature, FDI is regarded as an important factor in economic development (Anderson et al., 2019). The standard definition of FDI – see, e.g., OECD (2020a) - emphasizes the long run time horizon of foreign investors so that the effects of FDI could indeed be of strategic importance for long-term structural change and economic development in host countries. FDI typically also stands for an international channel for international technology transfers, trade, and economic development and growth (Alfaro et al., 2004). Machinery and equipment are often considered as being the core element of FDI, but in modern economies - with a rather high share of intangible capital - FDI naturally could also increasingly involve intangible assets such as brands and know-how (Qiang et al., 2015); market expansion abroad as well as accelerated technology diffusion are key elements of FDI in many countries (Alfaro et al., 2004).

The standard statistical view is to consider FDI inflows and FDI outflows (OECD, 2020b), but certain economic effects will be less related to FDI flows but rather to cumulated inward FDI or cumulated outward FDI (i.e., FDI stock figures). Business activities in industrialized countries at an international level are heavily influenced by FDI, in part leading to countries and regions competing with one another to attract such investment (Nielsen et al., 2017). The expansion of FDI has also been helped by the strengthening of links between national economies in the course of globalization, which has further enhanced the creation of international production networks around the globe (Chung, 2014).

As regards source countries in a global perspective, the origin of most FDI flows lies in OECD countries (OECD, 2002), with current estimations approaching 70% of global FDI by volume (Baier, 2019). According to Alfaro et al. (2004), developing nations began to introduce FDI more readily into their markets from the 1990s as FDI became a more widely accepted tool for furthering economic development of a country. However, economies are limited in their capacity for FDI within the scope of the development of local financial markets. The absorption

capacity of host countries for FDI is partly limited by the adequacy of institutional settings on the one hand; on the other hand, the human capital variable in host countries also plays a role for successfully attracting FDI inflows (Sapkota and Bastola, 2017).

The host country perspective of FDI is somewhat different; one popular model is the OLI framework developed by Dunning (1979). Departing from neoclassical theory of international trade, where differences between nations lie solely in the different relative resource endowments, Dunning argues that international production patterns are dependent on country-specific properties creating *ownership*, *locational*, and *internalization* advantages for the firms and industries, respectively, as reasons to operate on international markets.

The *ownership* dimension of the framework represents a firm's possible advantage and thereby motivation to invest – by gaining or exploiting ownership of superior technology and opportunities to make the most of the gains which arise from being an innovating force on the market (Dunning, 1979). Differences between countries can not only be attributed to resource endowment in a narrow sense, but to "differences in production functions, scale economies and product differentiation" (Dunning, 1979, 277). These differences can lead to specific advantages for firms which can be enjoyed across national borders. *Locational* advantages, on the other hand, refer to location-specific gains an enterprise might earn in international markets. This aspect depends, in part, on both the physical distance and economic difference between the country of origin and the country of interest. Other factors can include the exchange rate between the relevant currencies, market sizes, labor costs, industrial structures, or the firm's tendency towards risk diversification (Dunning, 1979). Here, one might add, of course, also cross-country differences in energy costs in OECD countries – related, for example, in a more recent context to the cost of CO_2 emissions certificates in EU countries which introduced an Emissions Trading System (ETS) in 2005 covering industry and the energy sector. Some other OECD countries have introduced CO_2 Pigou taxes, e.g., Sweden, Norway and Switzerland; the US has adopted some emissions trading in the energy sector, particularly in California which has even established an emissions trading system not unlike that of the EU, which, however, has achieved even broader coverage of sectors and CO_2 emissions (relative to total emissions) than the EU has (Welfens, 2019, 2021).

Furthermore, as firms face specific market transaction costs for international arms-length transactions – or even market failure and government intervention in different countries – multinational companies will consider the alternative of intra-firm international transactions across borders once a subsidiary has been established abroad. FDI thus is an option to *internalize* rather than externalize transactions; and as various countries differ in relevant institutional characteristics, certain countries would present these firms with more advantageous conditions, making country-specific attributes an important factor (Dunning, 1979).

The OLI approach is still useful in modern economic analysis of FDI, although some additional aspects have to be considered, particularly the role of asset-seeking FDI (for the case of US outward FDI, see Franco (2013)); when firms from EU countries undertake FDI in the US or vice versa, a major driver is often not relatively low factor costs in the host country, but rather the optimal access to complementary R&D and innovations, respectively. High-technology firms, such as in the pharmaceutical sector, can be considered as relevant actors in a transatlantic perspective. The case of asset-seeking FDI could be important in the context of

the pollution haven hypothesis to the extent that countries with strict environmental policy stringency might develop such a strong comparative advantage in energy-intensive or environmentally relevant sectors, that foreign multinationals could want to produce a rising share of value added in that environmentally ambitious host country. Foreign MNCs interested in acquiring environmentally-friendly technologies could have a stronger interest in FDI in such host countries.

Faeth (2009) provides a summary of further theoretical models intended to provide an explanation of FDI and the related empirical approaches. The policies of both firms and countries have been identified in the literature as possible determinants of FDI, such as the level and treatment of R&D expenses, firm size, tax level, market size, the protection of intellectual property rights and trade barriers, with many falling within the broader range of the OLI framework (Faeth, 2009; De Mello-Sampayo, 2009; Nielsen et al., 2017).

Energy inputs and other environmentally-relevant production inputs are crucial to many sectors in industrialized countries. Hence a key policy variable, that has been examined in the literature, is that of environmental policy stringency or environmental regulation and its impact on FDI (see, e.g., Fredriksson et al., 2003; Kahouli et al., 2014; Kirkpatrick and Shimamoto, 2008; Kukenova and Monteiro, 2008; Neequaye and Oladi, 2005). If environmental policy stringency drives up relative costs in source countries, firms have an incentive to relocate part of value-added abroad, provided the conditions for producing abroad are relatively more attractive in certain host countries. As regards the OECD countries, one might argue that more ambitious environmental policy initiatives in one of the G7 countries could go along with parallel environmental policy modernization moves in the other countries within this group. A counterargument is that the US in particular (but not alone in this regard) has occasionally been rather reluctant to adopt a broad common G7 agenda, and that seven countries out of 37 - with Colombia joining the OECD as its 37th member in 2020 - is not a very high number of countries to easily set a common standard across the OECD. Thus, the question of whether or not there is a pollution haven effect within the OECD countries remains relevant in principle.

2.2. Environmental Policy Stringency

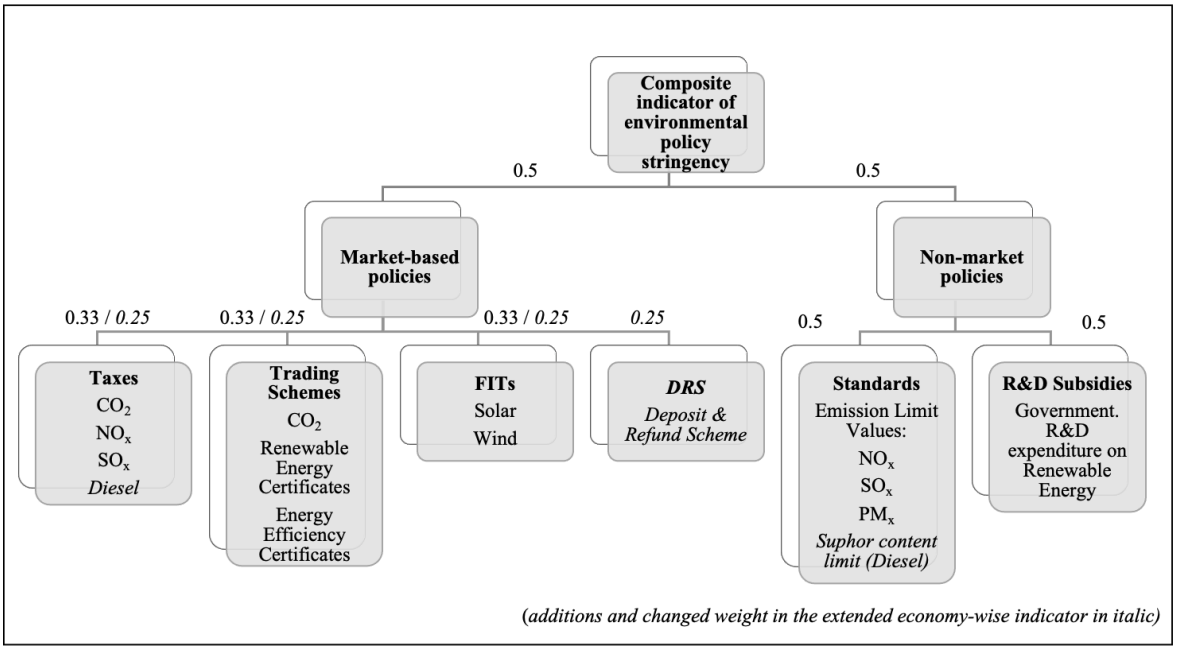
2.2.1. Definition

The statistical modeling in the present paper is based on a dataset of environmental policy stringency (EPS) published by the OECD. Therefore, in order to work with a consistent concept of the term and draw the correct and logical conclusions regarding the results of the model, it is necessary to consider the exact definition of environmental policy stringency as used in the OECD's original assessment. The OECD defines environmental policy stringency as the "policy-induced cost of polluting by firms" (OECD, 2020c). Botta and Koźluk (2014), in their development of the EPS index used in the OECD data set, expand on this by including both the explicit and implicit costs of not only polluting, but more generally of environmentally harmful behavior[1]. This incorporates instruments such as taxation, subsidies or tariffs, with the important common goal of pricing environmentally 'dirty' behavior and creating financial

[1] There have been numerous attempts at constructing indexes measuring environmental policies, see Sauter (2014) for an overview as well as the development of a new one.

incentives for behavior of the opposite kind. In order to create a fully encompassing index, Botta and Koźluk (2014) build upon a taxonomy of policy instruments developed by De Serres et al. (2010). The resulting energy sector indicator is comprised of various types of instruments, such as CO_2 taxation and government R&D expenditures on renewable energy technologies (Botta and Koźluk, 2014), as illustrated by Figure 1 (Botta and Koźluk, 2014, 21). They further expand the coverage of the index by adding more policy instruments in an economy-wide indicator, such as the degree of diesel taxation (Botta and Koźluk, 2014, 19), as can be seen in the *changes and additions* in Figure 1 (Botta and Koźluk, 2014, 22).

Figure 1: Structure of the energy sector indicator



Source: Based on Botta and Koźluk (2014, 19, 22).

2.2.2. Literature Review

As environmental policies can be of importance not only for the environment itself but also for the economy (Albrizio et al., 2014), they have received enormous interest from researchers in the field of economics as well. Environmental policy has been examined by researchers as both a dependent variable of interest in its own right and as being an impacting factor with a determining impact on other variables. The literature on the effects of environmental policy stringency has not yet come to a consensus conclusion regarding the direction of such effects. Some factors which have been analyzed with regard to the degree of the impact upon them of environmental policies are productivity (see, e.g., Lanoie et al., 2008), innovation (Bergek et al., 2014), technological change (Calel and Dechezlepretre, 2016), technological adoption (Perino and Roquate, 2012), or indeed several of them simultaneously (Morales-Lage et al., 2016).

Furthermore, another branch of research investigates the impact on FDI. Overall, it can be said that there is empirical evidence of environmental regulation being a significant determinant of FDI – however, results in the literature are generally ambiguous and sensitive to different factors. Chung (2014) examines the attributes of nations which can build a comparative advantage playing a role in the formation of FDI patterns, focusing on South Korean outward FDI and imports. The study's results support the pollution haven hypothesis, which will be discussed in more detail at a later point in this subchapter, citing a "laxity in environmental regulations", which in the OECD's index translates into a low value of EPS, as a significant contributor to a comparative advantage in FDI (Chung, 2014). A similar effect was found with US data from 1977 to 1987 when considered in a combined influence alongside governmental corruption, which the authors argue to be a critical factor in inbound FDI flows (Fredriksson et al., 2003). Using firm level data from countries of the former Soviet Union as well as Central and Eastern Europe, Smarzynska and Wei (2001) find results in line with this as well, with the participation in environmental treaties being the comparatively strongest predictor, while noting that the support is "weak" and suffers from a lack of statistical robustness. Amongst other factors, they control for host country corruption, arguing that high corruption levels might be doubly influential through correlations with low environmental protection and low inward FDI (Smarzynska and Wei, 2001). Follow-up work by the same authors notes no more than "occasional weak support" (Javorcik and Wei, 2004).

In similarly disaggregated data relating to Norwegian firms, specifically focusing on the flows between affiliates and their respective parent companies, a significant tendency towards a decline of FDI flows in more environmentally-stringent countries has been discovered (Rezza, 2013). Further support of this thesis was found in a multinational study by Kahouli et al. (2014), which utilized gravity equations in order to investigate the impact of environmental policies on trade and FDI flows. While the effect is positive on both variables of interest, the authors note that it is significant only in the static estimation of trade impacts as opposed to dynamic estimations or the impact on FDI. Kukenova and Monteiro (2008) also note findings of a similar type while including a "third-country" effect in their analysis, introducing the proximity of neighborhood host countries to their gravity model.

Another discrepancy in research results stems from the level at which the policy impact is measured. Firstly, it is possible to explore the effect at an individual firm level. Even then, the results are disputed. While the necessary investments in pollution reduction or technological innovations may lead to additional cost (Albrizio et al., 2014), there is also support for a theory that incentives for innovation and increased efficiency, such as the ones introduced by higher EPS and pollution costs, may lead to improved productivity. According to the Porter hypothesis, "regulation might act as a spur to innovation" (Porter and van der Linde, 1995), leading in general terms to advantages for firms such as reduced uncertainty regarding future investments and higher productivity (Morales-Lage et al., 2016; Porter and van der Linde, 1995). On the other hand, a higher EPS might result in firms moving part of their business activities to other countries or exiting the market altogether, as well as additional barriers to market entry being raised, which highlights the central importance of understanding the impact of EPS (Albrizio et al., 2014).

Taking one further step away from the micro-level, industry-level studies also yield conflicting results. In older studies, there seems to be a tendency towards finding a negative effect (e.g., Barbera and McConnell, 1990; Dufour et al., 1998); however, Albrizio et al. (2014, 7-8)

summarize that these studies "tend to suffer from problems of identification and are generally not very robust". More recent studies, on the other hand, seem to have a tendency towards contradictory results, as exemplified by the long-term positive effect, outweighing a short-term negative impact, such as found by Lanoie et al. (2008).

On an even more aggregated level, empirical studies are rarer due to "data and identification problems" (Koźluk and Zipperer, 2015, 165; Smarzynska and Wei, 2001). Despite the difficulties with empirical evidence, one theory with a multinational application has gained popularity amongst researchers. According to the pollution haven hypothesis, "regulatory stringency in developed countries shifts polluting industries to the developing world" (Levinson and Taylor, 2008), resulting in improving environmental conditions in countries with more stringent environmental standards. In the context of FDI, this effect can result in a 'pull' effect exerted by countries with more lax environmental policies, with firms trying to avoid the costs which would arise from a compliance with environmental standards (Kukenova and Monteiro, 2008). Levinson and Taylor (2008) stress that, despite there being a difficulty in proving the pollution haven effect due to the costs associated with pollution abatement being rather small, more stringent environmental policies are likely to have an effect. Further difficulties in this field in the literature stem from methodological issues, specifically concerning the question of the endogeneity versus exogeneity of environmental policies as well as potentially heterogenous measurement errors (Levinson and Taylor, 2008; Millimet and Roy, 2016). Furthermore, factors such as clean technology adoption have been cited as confounders of the effect (Chung, 2014). Undisputed empirical evidence in support of the hypothesis appears to be scarce (Kellenberg, 2009; Millimet and Roy, 2016). Smarzynska and Wei (2001, 2) draw the conclusion that the lack of consistent empirical proof may be due to the pollution haven hypothesis being either "just a popular myth" or researchers simply not working "hard enough" to find the needed evidence.

In relation to the pollution haven hypothesis, an alternative theory has been posited to explain the reduction in pollution in more developed countries. Following the principle of the Environmental Kuznets Curve, the relationship between economic growth in the form of per capita income and environmental degradation can be described as an inverted U-shaped quadratic function – once a maximum level of pollution is exceeded, growth ceases to be correlated with degradation and instead correlates with an increase in environmental quality (Cole, 2004; Kearsley and Riddel, 2010). This can occur both on an aggregate level and with regards to the pollution of households (Andreoni and Levinson, 2001). In contrast to the idea of pollution havens, this effect is partially ascribed to technological advancements (Andreoni and Levinson, 2001). This 'more hopeful' approach can serve as an explanation for the set of phenomena for which the pollution haven hypothesis is an attempted explanation (Jbara, 2007, 15). However, it is also a controversial approach, with criticisms including the fact that an insufficient number of environmental indicators support the hypothesis and that the peak of the Kuznets curve is itself a matter of intense debate (Dasgupta et al., 2002; Dinda, 2004).

Based on this review of the literature and the fact that the present paper focuses on the question of the impact on FDI only, the hypothesis to be confirmed or refuted is that *more stringent environmental policies have a negative impact on the FDI inflows of OECD countries.*

3. Gravity Model

The modern understanding of gravity derives from a physical theory in classical mechanics, namely Isaac Newton's law of universal gravitation, as can be seen in Figure 2. According to this law, any mass attracts any other with a varying force which can be calculated directly as the product of their masses and inversely as the square of the distance between them (Encyclopaedia Britannica, 2020). By applying the logic of this law to economics, the core principle of the attractive force between two masses can be seen as the economic attraction between two countries expressed by the extent of their trade with one another. Based on this idea, gravity models have been developed to provide an empirical footing for analyses of trade flows between countries. By taking into account the economic size of countries and their capacity for exports versus national income, as measured by their respective GDP (De Benedictis and Taglioni, 2011), as well as the distance between them as a representative measure for the resistance to the gravitational attraction, such as trade costs (Folfas, 2011; Shepherd, 2016), a gravity model can function as a necessary framework to measure the impact of policies on trade flows between nations (Shepherd, 2016). It can be seen as an intuitive, curtailed, representation of supply-demand dynamics (Folfas, 2011).

Figure 2: Comparative analysis of the Newtonian theory of gravitation and the gravity trade model, based on Yotov et al. (2016).

Newton's Law of Universal Gravitation	**Gravity Trade Model**
$F_{ij} = G\ \frac{M_i M_j}{D_{ij}^2}$	$X_{ij} = \mathrm{G}'\frac{Y_i E_j}{T_{ij}^{\theta}}$
F_{ij}: gravitational force between objects i and j	X_{ij}: exports from countries i and j
G: gravitational constant	G: inverse of world production $G' = \frac{1}{Y}$
M_i: object i's mass	Y_i: country i's domestic production
M_j: object j's mass	E_j: country j's aggregate expenditure
D_{ij}: distance between objects i and j	T_{ij}^{θ}: total trade costs between countries i and j
	$T_{ij}^{\theta} = \left(\frac{t_{ij}}{\Pi_i \mathrm{P_j}}\right)^{\sigma-1}$

Source: based on Yotov et al. (2016, 26).

Tinbergen, based on his own background in theoretical physics (De Benedictis and Taglioni, 2011), was the first to translate the concept of gravitation into an econometric model, deriving the levels of flows of international trade between trading partners from a direct relation to the aforementioned economic size of each, and an inverted relation to the distance between them (De Benedictis and Taglioni, 2011). A regression model transformed into logarithmic form, the original model can be represented as follows (based on De Benedictis and Taglioni, 2011, 57):

Figure 3: Logarithmic gravity equation

$$\ln X_{ij} = \underbrace{\ln G}_{a_0 = constant} + \underbrace{a_1 \ln M_i + a_2 M_j}_{economic\ attractors} + \underbrace{a_3 \Phi_{ij} + a_4 N_{ij}}_{distance} + \underbrace{a_5 V_{ij}}_{policy} + \underbrace{\varepsilon_{ij}}_{iid}$$

Source: based on De Benedictis and Taglioni (2011, 57).

This basic model has since been further developed into many diverse versions based upon the same fundamental approach by a number of researchers, evolving into a tool for economists to measure the impact of related policies, such as tariffs, as well as the relevant characteristics of the countries themselves on trade (Shepherd, 2016; Shepherd et al., 2019). Not only does its simple initial form provide a base for an intuitive understanding and exploration (Shepherd et al., 2019), it also profits from numerous publicly available and oftentimes extensive datasets as well as a high explanatory power (Folfas, 2011). Furthermore, gravity models have now been expanded to often include further measures of control, sharpening the analytic and predictive nature of their results by including information regarding factors such as territorial borders or languages (Anderson and van Wincoop, 2003; Folfas, 2011; Shepherd, 2016). Beyond adding new factors, researchers have also replaced parts of the gravity equation with equivalent measures – such as the countries' respective GDP instead of the GNP, as initially proposed by Tinbergen (De Benedictis and Taglioni, 2011). Moreover, the field of interest has expanded from trade flows towards other variables of interest, a prominent example being FDI flows.

As the objective of this paper is to investigate FDI flows between OECD nations, a contribution to the literature which requires mention is that of Straathof et al. (2008), in which the authors studied the European Union's Internal Market based on OECD datasets and estimated its effect by way of regression analyses within the frame of gravity modeling. Based on Anderson and van Wincoop (2003)'s equational framework, they use Ordinary Least Squares (OLS) estimation in order to estimate their model. Furthermore, Anderson and van Wincoop (2003, 170) coin the term of "multilateral resistance", referring to the average barrier in the bilateral trade between two countries and their respective resistance to trade with others, and matching this empirically-embedded concept with the built-on theory developed by Anderson (1979), while maintaining that gravity modeling is an empirical approach rather than a theoretical one. Anderson et al. (2019, 4) further contribute to the development of gravity equations by developing a "dynamic model of trade" which includes FDI measures as well as trade. By adding multilateral resistance to the gravity model, as suggested by Anderson and van Wincoop (2003), it becomes necessary to consider an alternative strategy when accounting for it, as it cannot be included directly in the model. One way to do this is by using panel data with fixed effects estimation (Shepherd, 2016).

Furthermore, the gravity equation can be log-linearized. By doing so, however, one runs the risk of violating the OLS assumption of error term homoskedasticity – given that, in practice, error terms are likely to be heteroskedastic – thereby inviting the hazard of a biased and inconsistent estimator (Santos Silva and Tenreyro, 2006; Shepherd, 2016). Santos Silva and Tenreyro (2006) suggest an alternative way of estimating the gravity equation – a pseudo-

maximum-likelihood estimator which is mathematically equal to the Poisson pseudo-maximum-likelihood (PPML) estimator which, in turn, requires weaker assumptions. Fournier et al. (2015) also successfully combine country fixed effects and a PPML estimator approach with the theoretical foundation of Anderson and van Wincoop (2003), taking into account both trade and FDI. This approach has been successfully proven to be applicable to bilateral FDI data as well, specifically in a study focusing on data from the European Union (Bruno et al., 2016). Additionally, the possibility of zero values has been addressed as a significant issue, which in sum led to Poisson estimation being argued to be a preferred estimator (Kareem et al., 2016). Based on this literature, the approach for this paper will be to estimate the model with country fixed effects and PPML estimation[2].

4. Model Estimation

4.1. Empirical Model

Based on the aforementioned models, the gravity equation used to investigate the present research question includes elements of Tinbergen's original model as well as a country fixed effect and further variables. Rather than an intuitive model, it is a static model with fixed effects for both country and country pairs. See Shepherd (2016) for a detailed instruction of the steps followed. Table 2 provides a brief overview of variable notation and definition.

$$\begin{aligned}\ln FDI_{inflow} = {} & \beta_0 \\ & + \beta_1 \ln GDP_{origin} + \beta_2 lnGDP_{target} \\ & + \beta_3 \ln distance_{ot} + \beta_4 EPS_{target} + \beta_5 contig + \beta_6 comlang + \beta_7 col \\ & + \beta_8 comcol + \delta_o cfe_o + \delta_t cfe_t + \delta_{cp} cfe_{cp} + \varepsilon_{ot}\end{aligned}$$

[2] Shepherd (2016) stresses that the data concerned does not need to follow a Poisson distribution. Furthermore, a PPML estimation approach accounts for zero FDI inflows.

Table 2: Variable notation and definition

Notation	Variable	Definition
FDI_{inflow}	FDI inflow	FDI inflow from origin to target country, in million USD
β_0	Regression constant	
$\beta_1, \ldots, \beta_8$	Regression coefficient (respectively) ($\beta_{1,5-8} = 0$ for Model 2)	
GDP_{origin}	GDP of origin country	Gross domestic product of FDI origin country, in million USD
GDP_{target}	GDP of target country	Gross domestic product of FDI target country, in million USD
$distance_{ot}$	Distance between origin and target country	Bilateral geographical distance
EPS_{target}	Environmental policy stringency of target country	Environmental policy stringency as measured by the OECD, ranging from 0 (low stringency) to 6 (high stringency)
$contig$	Contiguity	Dummy variable, contiguity of origin and target country
$comlang$	Common official language	Dummy variable, shared official language of origin and target country
col	Colony	Dummy variable, common colonizer of origin and target country
$comcol$	Colonial links	Dummy variable, colonial links between origin and target country
$\delta_o, \delta_t, \delta_{cp}$	Country fixed effects for origin country, target country, and country pairs (δ_{cp} = 0 in first model)	

4.2. Data

The data used to estimate this model were obtained from various sources. Much of the data set, excluding the EPS index, was kindly provided by the EIIW; see Baier (2019, 86) for detailed information regarding the sources of different variables. Additionally, the EPS index data as compiled by the OECD was used. In order to accommodate the two datasets, FDI and other data needed to be streamlined with regards to some countries and years. The final combined dataset included 27 OECD countries in sum, covering the years 1990 to 2015. A detailed overview over the number of countries and the timeframes the data covers can be found in Appendix B**.**

4.3. Interpretation of Results

Based on previous research, as briefly explained in Section 3 of this paper, the method of estimation of choice is the Poisson Pseudo Maximum Likelihood (PPML) estimator with country fixed effects. The first PPML estimation was conducted in STATA with the fixed effect limited to the FDI flow origin and target countries (see Table 3)[3].

Table 3: Results of Model 1.

Inflow	Coef.	Robust Std. Err.	95% Confidence Interval	
Lndist	-.4370482***	.0620997	-.5587614	-.315335
Eps	-.209306***	.0511609	-.3095795	-.1090325
lntargetgdp	1.293795***	.1365063	1.026247	1.561342
lnorigingdp	.5196554**	.1580829	.2098187	.8294922
Contig	.0919657	.16126	-.2240981	.4080295
comlang_off	.4387978**	.1496439	.1600942	.7175015
colony	.1850543	.1496439	-.1082423	.478351

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Own representation

As the only numerical independent variable not treated as a fixed effect or a dummy variable, EPS was not log-linearized along with distance and GDP, which were included in their logarithmic forms following the example of Shepherd (2016). Furthermore, the small numerical range of EPS (between 0 and 6) as well as its descriptive markers *($\mu = 1.8079$*, median = *1.6917*, *SE = 0,9202*[4]) suggest that to interpret a change of one percent in EPS would be impractical as the change would be truly minimal and would result in an unrealistic measure based on the changes countries go over the years[5].

It can be seen that distance is, as expected in a gravity model, significantly negatively correlated with FDI inflow (*-.4370***, SE = 0.0621*). As distance is used as a proxy variable to capture the cost of investment, it is intuitively logical that FDI would decrease the farther away the country of destination is, and this intuitive understanding is upheld by the data. For every 1% increase in distance, FDI will change by $(-.4370) \times ln(1.01) = -.004348$ million units, ergo by negative 4,348 USD.

In contrast, the GDP of the target country is positively correlated with FDI inflow, at a coefficient value of *1.2938*** (SE = .1365),* resulting in a 12,873.74 USD ($1.2938 \times ln(1.01) = .012873738$) increase per 1% increase in GDP. Similarly, at a coefficient of *.520** (SE = .1581),* a 1% change in the GDP of the origin country corresponds with a 5,174.17 USD increase

[3] Abridged representation; the complete results of country fixed effects can be viewed in Appendix D.

[4] Other properties of EPS: *Min = 0.2083* (TUR 1991); *Max = 4.1333* (NL 2010); *Q1 = 1.0208*; *Q3 = 2.5438*. Standard errors (*SE*) mentioned are robust standard errors.

[5] For illustrative purposes, see all countries' respective minima and maxima in Appendix A.

in FDI inflow. The tendency of this result is in accordance with the general gravity model literature, reflecting the attracting force of a country's economic size as represented by its GDP.

Contiguity, a common official language, as well as a common colonial history are also positively correlated with FDI inflow. However, only a common official language is a significant predictor *(.4388**, SE = .1422)*. Colonial links were dropped from the estimation by STATA.

As the variable of interest in this paper, EPS is to be highlighted separately. With a coefficient of *-.2093*** (SE = .0512)* in this model, it is a significant determinant of FDI inflow and is negatively correlated with the dependent variable. This means that, for every unit increase in EPS, the corresponding difference in expected mean of FDI inflow will amount to a negative 209,306 USD.

Furthermore, the model has been run once more to include an additional fixed effect comprised of the country pairs (see Table 4[6]). This model has better statistical fit as about 5% more of the variance in FDI inflow is explained by the variables in the model ($R^2 = .4762$).

Table 4: Results of Model 2.

**** p < 0.01, ** p < 0.05, * p < 0.1*

Inflow	Coef.	Robust Std. Err.	95% Confidence Interval	
Eps	-.1994645***	.0510131	-.2994482	-.0994807
lntargetgdp	1.298839***	.139658	1.025105	1.572554
lnorigingdp	.5006262**	.1524718	.201787	.7994655

As can be seen in Table 4, the GDP of the target country *(1.2988***, SE = .1397)* and the GDP of the origin country *(.5006**, SE = .1525)* all follow the same tendency as in the model with only two fixed effects. However, given that this model included a dyadic fixed effect for the country pairs, bilateral variables had to be dropped from the estimation, resulting in no estimations for distance or the dummy variables representing contiguity, a common official language, a shared colonial past and colonial links.

The effect of EPS is found to be very similar to that seen in the aforementioned model. With a coefficient of *-.1995*** (SE = .0510)*, it is slightly smaller than before, however, as is the robust standard error. A positive change of a country's EPS index by one unit, i.e. the relevant country introducing more stringent environmental policies, would lead to a decrease in estimated FDI inflows on average by about 199,464.50 USD.

Results of OLS regressions can be viewed in Appendix C. As zero FDI inflow is counted in the PPML but dropped in OLS, the number of observations also drops from over 14,000 in PPML to around 9,500 in OLS. Furthermore, the results for the not log-linearized EPS index are positive but not significant in OLS.

[6] Abridged representation; the complete results of country fixed effects can be viewed in Appendix E.

The results of both PPML models support the idea of the pollution haven hypothesis as discussed in Chapter 2.2.2 – the higher the cost of pollution and, due to that, the cleaner production and industry would have to be in a given country, the less likely foreign firms are to invest there. The hypothesis is therefore clearly supported by empirical results. From this finding one may draw broad economic policy conclusions.

5. Economic Policy Implications and Further Research

With the long-term growth of cumulated FDI relative to OECD source countries, it is obvious that foreign direct investment perspectives and international locational competition are crucial in the 21st century. Since the first two decades of the century have also seen an increasing international emphasis on climate policy and environmental policy patterns, respectively, in the political sphere, the topic of pollution haven tendencies has a triple importance:

- To some extent, pollution haven motivated investment relocation dynamics within the OECD could represent an adequate adjustment in locational production patterns, and thus could be an element of an overall cost minimization strategy in the OECD country group – minimizing resource inputs could be a positive effect for the environmental quality of the OECD. This view could apply to environmental intensive production as well as energy intensive production dynamics which would be relevant for climate policy efficiency in the end.

- There is, however, also the potential problem that FDI dynamics represent a kind of carbon leakage problem – and related problems in a broader environmental/resource perspective: By relocating part of production abroad, multinational firms circumvent part of national environmental policy stringency; MNCs which have invested abroad import intermediate products from subsidiaries abroad. This then undermines environmental policy to the extent that there is a lack of international cooperation in this field in the OECD.

- Another special aspect is the effect that through greenfield investment and international technology transfer within multinational companies, FDI raises per capita income in host countries; here a potential link to an Environmental Kuznets Curve could be relevant. Since the demand for a clean environment is a normal good – with a positive income elasticity – one may expect that this economic international transmission channel reinforces the prospects for cooperation in environmental policy to the extent that FDI contributes to economic convergence (i.e., the convergence of per capita national income, measured in purchasing power parity figures). The assumption is that countries with similar per capita income figures have similar political preferences. An analysis of World Value Survey data has shown that a rising role of digital communication has also contributed to international convergence of the "environmental concern" of households across countries where countries in both the global North and South were considered (Udalov and Welfens, 2020).

In the analysis presented here, the question has been examined of whether environmental policy stringency can be viewed as a significant influence on FDI inflows and how great this impact could be. Based on previous literature, it was hypothesized that results would bring evidence for the pollution haven hypothesis – namely that more stringent environmental policies would lead to a decline in FDI. In this context, a gravity model approach with PPML estimation and fixed country effects was used. The empirical analysis was based on bilateral FDI inflow data from OECD countries, ranging from 1990 to 2015 (see Appendix B for more information).

The main findings show that the impact of environmental policy stringency on FDI inflows is significant and negative according to the estimations made within the model. This supports the hypothesis stated in Section 2, which falls in line with the pollution haven hypothesis. However, if one is to follow the approach of the Environmental Kuznets Curve, it cannot be disproven that the data point towards a point on the curve before the tipping point, and that OECD countries are not quite on the verge of a positive relationship between more stringent environmental policies and an increase in FDI (this would be in line with the findings of Kahouli et al. (2014) who find that the effect on FDI is negative albeit not significant). FDI includes investment in manufacturing industries and thereby often polluting industries, which may contribute to its impact by pricing pollution more strongly – the additional direct or indirect pricing effect on such business activities would reduce the yield, or more specifically, the return on investment, and therefore deter foreign firms. So long as there are economies within realistic reach that could provide the same benefits, FDI in 'dirty' industries would flow towards countries that allow pollution intensive output at a relatively lower cost. If a country wishes to attract foreign firms to invest in such industries directly or indirectly, one possibility would be to loosen the economic and political restrictions on pollution. In view of the extant environmental crisis and finite ecological resources, however, such a policy might do more harm than good in the long term.

The study by Kahouli et al. (2014) also finds a significant and positive effect on trade of a stronger environmental policy stringency. Adding to that the support for the idea of the Environmental Kuznets Curve, it suggests the assumption that a higher price on pollution is not inherently and entirely disadvantageous to an economy. One policy option to absorb the macroeconomic blow of decreasing FDI might be to boost and support other factors of the country's economy which do not rely on pollution quite as heavily, such as trade, services or intellectual property. Moreover, attempts can be made to shift FDI inflows from polluting industries towards sectors that are less impacted by stringent environmental policies, such as the aforementioned services, or digital goods and services, thereby reallocating FDI inflows within the destination country rather than reducing FDI inflows and seeing investment instead go to pollution havens.

Alternatively, or additionally, following the idea of the Environmental Kuznets Curve, policymakers can foster investment in cleaner technologies and energy sources and attempt to 'push' the economy over the tipping point of the curve, which can lead to several improvements. For one, inherently polluting sectors such as industrial production or the construction industry may be transformed into 'cleaner' versions of themselves, making them more sustainable both in the ecological and the economic sense. This can attract FDI inflows in the long term, making these industries economically, financially and environmentally viable as others may bend under the weight of ecological necessity. Furthermore, industries that rely on ecological resources but are not, themselves, inherently pollution-intensive and therefore subject to stringent

environmental policy, may also profit from a shift towards renewable energy and more sustainable resources. It is not out of the question, however, that future local and supra-regional environmental policies may tackle those industries as well, so it can be seen as being not only an ecologically but also an economically prudent step to incentivize a shift towards a 'cleaner' footing. Given that the digital sector has been growing rapidly in terms of economic importance over the past decades, a trend that is bound to continue, this could become a central factor in countries' economic development.

Third, the development of these cleaner technologies itself could become a source of economic growth. By attracting investment in this sector, for instance by way of direct or indirect subsidies such as reduced taxation, thereby promising a higher return on investment, countries could benefit in the long term with regards to financial investment, but also patents, intellectual property rights, the attraction of high-skilled labor, or expanded research and development, all resulting in possible economic growth.

Here, further research is necessary - for example, with a particular focus on a gravity FDI model only for the tradables sector. Moreover, in order to foster a global understanding and more thoroughly tackle the core of the pollution haven hypothesis, it would be necessary to include data that are not from OECD countries, as the issue is not inherent to this group of countries. With the new wave of data from the World Value Survey, one could also focus in a new way on changes in the "environmental concern" of households in both OECD countries and in developing countries. Furthermore, it could be interesting to analyze the extent to which the leadership of countries in the EIIW-vita Global Sustainability Index (Welfens et al., 2015) plays a role for global FDI dynamics.

One particular focus in terms of future research could be on green technologies in the context of information and communication technology (ICT). ICT is important as a sector in its own right but a rising share of ICT capital in the total capital stocks of many countries also stands for an indirect ICT-driven modernization effect. This could also point to a particular role of FDI in the services sectors which are almost all ICT-intensive.

The evidence obtained for the OECD countries suggests extending the research to other country groups, such as a broader analysis of countries in Asia, Latin America and Africa. It would be crucial that additional research from international institutions – such as the WTO or the World Bank – would add new insights about the role of institutional changes in developing countries and the possibly special role of China. High marginal benefits of further research based on the FDI gravity modelling approach may be expected.

A major issue of international FDI effects could be green technology transfer effects as has already been emphasized by Letchumanan and Kodama (2000), Dutz and Sharma (2013), and Gao et al. (2018). There are international technology transfer effects which could concern green process innovations – those are resource saving or energy saving developments – and environmentally-friendly product innovations which could, for example, be covered within the framework of broader macro DSGE modelling (with a familiar CES consumption function and N product varieties so that product innovation means to raise N to N' where N' minus N stands for product innovations with "green product traits" and would exceed the weighted average environmental quality for the previous N product varieties). Within a two-country DSGE model which considers both trade and FDI (Roeger and Welfens, 2021), broad macroeconomic effects

of innovation on per capita income, the composition of output and energy intensity/capital intensity could be analyzed in a new way and also allow to consider innovation policy options in a novel way.

Finally, there is a specific aspect of green innovation, FDI and the growth of the global population, which implicitly comes up in the theoretical green growth modelling of Bretschger (2020): Expected global population growth contributes to new environmental stress in many countries and regions on the one hand. On the other hand, the enhanced quality of education to be expected at the margin given additional people on this planet imply better prospects for green product innovations; the latter effect could indeed dominate the former and, with a higher global FDI intensity (i.e., FDI relative to source country capital stocks and host country capital stocks, respectively), an acceleration of green knowledge formation and environmentally-friendly innovations could be expected in the long run.

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Appendix

Appendix A: Minimum and maximum of the EPS index per country

Table 5: Minimum and maximum of the EPS index per country

Country	EPS minimum (Year)	EPS maximum (Year)
Australia	0.46 (1996-1997)	4.07 (2013)
Austria	1.17 (1990)	3.33 (2009-2010)
Belgium	0.67 (1990-1991)	2.60 (2010)
Canada	0.38 (1990-1991)	3.85 (2009)
Czech Republic	0.54 (1990-1994)	2.89 (2009-2010)
Denmark	0.90 (1990)	4.07 (2009)
Finland	0.83 (1990)	3.43 (2012)
France	0.71 (1990-1992)	3.70 (2011)
Germany	1.21 (1990)	3.14 (2011)
Greece	0.65 (1990)	2.33 (2010-2011)
Hungary	0.35 (1990)	2.77 (2010)
Ireland	0.48 (1991)	2.43 (2011)
Italy	0.96 (1990)	3.28 (2015)
Japan	1.13 (1990-1993)	3.50 (2012)
Republic of Korea	0.5 (1990)	3.52 (2009-2010)
Netherlands	1.17 (1992)	4.13 (2010)
Norway	0.60 (1990)	3.19 (2009-2011)
Poland	0.65 (1990)	2.96 (2009-2011)
Portugal	0.85 (1990-1991)	2.54 (2010)
Slovak Republic	0.52 (1990-1991)	3.05 (2011)
Slovenia	1.64 (2008)	2.46 (2010)
Spain	0.79 (1990)	3.00 (2009)
Sweden	0.69 (1991)	3.34 (2009)
Switzerland	1.69 (2004)	3.33 (2010)
Turkey	0.21 (1991)	2.21 (2011)
United Kingdom	0.81 (1994-1999)	3.83 (2015)
United States	0.58 (1990)	3.17 (2012)

Appendix B: OECD countries used and time period covered

Table 6: OECD countries used and time period covered

Country	Time Period Covered
Australia	1990-2015
Austria	1990-2012
Belgium	1990-2012
Canada	1990-2015
Czech Republic	1990-2012
Denmark	1990-2012
Finland	1990-2012
France	1990-2015
Germany	1990-2015
Greece	1990-2012
Hungary	1991-2012
Ireland	1990-2012
Italy	1990-2015
Japan	1990-2015
Republic of Korea	1990-2015
Netherlands	1990-2012
Norway	1990-2012
Poland	1990-2012
Portugal	1990-2012
Slovak Republic	1990-2012
Slovenia	2008-2012
Spain	1990-2012
Sweden	1990-2012
Switzerland	1990-2012
Turkey	1990-2015
United Kingdom	1990-2015
United States	1990-2015

Appendix C: Results of OLS Model 1 and Model 2

```
1 . regress lninflow lndist eps lntargetgdp lnorigingdp contig comlang_off colony comcol targetdum
  > * origindum* , cluster(dist)
  note: comcol omitted because of collinearity
  note: targetdum21 omitted because of collinearity
  note: origindum20 omitted because of collinearity

  Linear regression                               Number of obs     =      9,558
                                                  F(68, 491)        =     111.62
                                                  Prob > F          =     0.0000
                                                  R-squared         =     0.6946
                                                  Root MSE          =     1.5629

                                       (Std. Err. adjusted for 492 clusters in dist)
------------------------------------------------------------------------------
             |               Robust
    lninflow |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lndist |  -.7024569   .0725941    -9.68   0.000    -.8450903   -.5598234
          eps |    .033501   .0470925     0.71   0.477    -.0590268    .1260287
   lntargetgdp |   1.047551   .1422029     7.37   0.000     .7681501    1.326953
   lnorigingdp |   1.117403   .1117334    10.00   0.000     .8978688    1.336938
       contig |   .3711509   .2089734     1.78   0.076    -.0394416    .7817433
  comlang_off |   .2552243   .1831371     1.39   0.164    -.1046048    .6150534
       colony |   .7127375   .2027234     3.52   0.000      .314425     1.11105
       comcol |          0  (omitted)
    targetdum1 |   2.624711   .5766468     4.55   0.000     1.491711     3.75771
    targetdum2 |   1.047471   .4296454     2.44   0.015     .2033003    1.891641
    targetdum3 |   2.540822   .4665928     5.45   0.000     1.624058    3.457587
    targetdum4 |   1.130036   .6306345     1.79   0.074    -.1090393    2.369111
    targetdum5 |   1.902797   .3724355     5.11   0.000     1.171033    2.634561
    targetdum6 |   1.693375   .4244792     3.99   0.000     .8593553    2.527395
    targetdum7 |   1.497219   .4112604     3.64   0.000     .6891717    2.305267
    targetdum8 |   .8162925   .6339623     1.29   0.198    -.4293212    2.061906
    targetdum9 |   .7044041   .6694588     1.05   0.293    -.6109533    2.019762
   targetdum10 |  -.0756344   .4742867    -0.16   0.873    -1.007516    .8562476
   targetdum11 |   2.025129   .3719328     5.44   0.000     1.294352    2.755905
   targetdum12 |   2.365082   .4736981     4.99   0.000     1.434356    3.295807
   targetdum13 |   .0074493   .6063434     0.01   0.990    -1.183899    1.198797
   targetdum14 |   -.854856   .7688813    -1.11   0.267     -2.36556    .6558475
   targetdum15 |    .000978   .5572796     0.00   0.999    -1.093969    1.095925
   targetdum16 |   2.021715    .489535     4.13   0.000     1.059873    2.983557
   targetdum17 |   1.435418   .4459266     3.22   0.001      .559258    2.311578
   targetdum18 |   1.863587   .4227147     4.41   0.000     1.033034     2.69414
   targetdum19 |   1.237029   .4229495     2.92   0.004     .4060146    2.068043
   targetdum20 |   1.686677   .4009352     4.21   0.000     .8989164    2.474437
   targetdum21 |          0  (omitted)
   targetdum22 |   1.534687   .5464184     2.81   0.005     .4610802    2.608294
   targetdum23 |   1.625381   .4717677     3.45   0.001     .6984484    2.552314
   targetdum24 |   1.626458   .4918136     3.31   0.001     .6601388    2.592777
   targetdum25 |   .3782234   .4841705     0.78   0.435    -.5730783    1.329525
   targetdum26 |   .8564291   .6582978     1.30   0.194    -.4369991    2.149857
   targetdum27 |   1.396505   .8753274     1.60   0.111    -.3233447    3.116354
    origindum1 |  -.4645044   .5055813    -0.92   0.359    -1.457874    .5288655
    origindum2 |    -.23579   .3773718    -0.62   0.532    -.9772528    .5056727
    origindum3 |   .7614845   .3922004     1.94   0.053    -.0091136    1.532083
    origindum4 |  -.5175401   .5005733    -1.03   0.302     -1.50107    .4659901
    origindum5 |  -1.109559   .3562944    -3.11   0.002    -1.809608   -.4095088
    origindum6 |  -1.453093   .3701426    -3.93   0.000    -2.180352   -.7258343
    origindum7 |   .3852966   .3364631     1.15   0.253    -.2757886    1.046382
    origindum8 |   -.529018   .2290453    -2.31   0.021    -.9790479    -.078988
    origindum9 |   .2560947    .33474     0.77   0.445    -.4016049    .9137944
   origindum10 |  -.1957314   .5562772    -0.35   0.725    -1.288709    .8972461
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note: cpairdum110 omitted because of collinearity
note: cpairdum111 omitted because of collinearity
note: cpairdum112 omitted because of collinearity
note: cpairdum113 omitted because of collinearity
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note: cpairdum115 omitted because of collinearity
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note: cpairdum814 omitted because of collinearity
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note: cpairdum838 omitted because of collinearity
note: cpairdum839 omitted because of collinearity
note: cpairdum847 omitted because of collinearity
note: cpairdum859 omitted because of collinearity
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note: cpairdum867 omitted because of collinearity
note: cpairdum894 omitted because of collinearity
note: cpairdum899 omitted because of collinearity
note: cpairdum901 omitted because of collinearity
```

Linear regression	Number of obs	=	9,558
	F(2, 491)	=	.
	Prob > F	=	.
	R-squared	=	0.7952
	Root MSE	=	1.3339

(Std. Err. adjusted for 492 clusters in dist)

lninflow	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lndist	-1.216572	.0592667	-20.53	0.000	-1.333019	-1.100124
eps	.0561367	.0469253	1.20	0.232	-.0360625	.1483359
lntargetgdp	.9434193	.141958	6.65	0.000	.6644993	1.222339
lnoriginggdp	1.238681	.1091853	11.34	0.000	1.024153	1.453209
contig	1.154424	.1877285	6.15	0.000	.7855736	1.523274
comlang_off	-.675655	.1143806	-5.91	0.000	-.9003907	-.4509192
colony	1.966548	.2246304	8.75	0.000	1.525193	2.407904
comcol	0	(omitted)				
targetdum1	7.483549	.7389789	10.13	0.000	6.031598	8.9355
targetdum2	.0521147	.5274281	0.10	0.921	-.9841798	1.088409
targetdum3	1.089771	.459744	2.37	0.018	.1864621	1.993079
targetdum4	1.641611	.5434289	3.02	0.003	.5738782	2.709344
targetdum5	.6431844	.1717738	3.74	0.000	.3056819	.9806869
targetdum6	5.616928	.5178496	10.85	0.000	4.599453	6.634402
targetdum7	2.043142	.4092699	4.99	0.000	1.239005	2.847278
targetdum8	6.871798	1.02735	6.69	0.000	4.853253	8.890344
targetdum9	5.811636	1.058446	5.49	0.000	3.731994	7.891279
targetdum10	1.602803	.3776013	4.24	0.000	.8608889	2.344716
targetdum11	5.754889	.4203325	13.69	0.000	4.929017	6.580761
targetdum12	5.641489	.5401856	10.44	0.000	4.580128	6.702849
targetdum13	2.868504	.9955581	2.88	0.004	.9124242	4.824584
targetdum14	4.792787	.9147099	5.24	0.000	2.995558	6.590015
targetdum15	1.13445	.564215	2.01	0.045	.0258766	2.243024
targetdum16	4.775634	.4607345	10.37	0.000	3.87038	5.680888
targetdum17	6.347793	.6199478	10.24	0.000	5.129716	7.565871
targetdum18	-1.168977	.5500688	-2.13	0.034	-2.249756	-.0881978
targetdum19	2.917465	.3384957	8.62	0.000	2.252386	3.582544
targetdum20	1.223827	.3908329	3.13	0.002	.4559153	1.991738
targetdum21	0	(omitted)				
targetdum22	6.237769	.5571986	11.19	0.000	5.142981	7.332557
targetdum23	4.356897	.5509962	7.91	0.000	3.274296	5.439499
targetdum24	1.287361	.4101417	3.14	0.002	.4815118	2.093211
targetdum25	1.888741	.7125819	2.65	0.008	.4886554	3.288827
targetdum26	4.89186	.6265355	7.81	0.000	3.660838	6.122881
targetdum27	8.357165	1.107746	7.54	0.000	6.180658	10.53367
origindum1	1.667328	.0266817	62.49	0.000	1.614904	1.719753
origindum2	1.189715	.1691327	7.03	0.000	.8574013	1.522028
origindum3	1.602324	.1663289	9.63	0.000	1.27552	1.929129
origindum4	1.15972	.2424476	4.78	0.000	.6833572	1.636083
origindum5	-3.814713	.2243506	-17.00	0.000	-4.255518	-3.373907
origindum6	-.3884264	.2993573	-1.30	0.195	-.9766056	.1997529
origindum7	-.0264329	.0683755	-0.39	0.699	-.1607776	.1079119
origindum8	-3.422592	.0666395	-51.36	0.000	-3.553526	-3.291659
origindum9	-.2633333	.0367252	-7.17	0.000	-.3354913	-.1911754
origindum10	2.099614	.0793681	26.45	0.000	1.943671	2.255557
origindum11	.723042	.0517398	13.97	0.000	.6213833	.8247007
origindum12	-.6515759	.0647031	-10.07	0.000	-.7787051	-.5244468

origindum13	-3.779303	.0624971	-60.47	0.000	-3.902098	-3.656508
origindum14	-.3915881	.4201782	-0.93	0.352	-1.217157	.4339812
origindum15	2.822289	.3654471	7.72	0.000	2.104256	3.540322
origindum16	.2123458	.1770907	1.20	0.231	-.1356033	.560295
origindum17	.3905525	.2354298	1.66	0.098	-.0720218	.8531267
origindum18	1.685956	.0339112	49.72	0.000	1.619327	1.752585
origindum19	.1418164	.0841577	1.69	0.093	-.0235372	.3071701
origindum20	0	(omitted)				
origindum21	-2.513323	.0555269	-45.26	0.000	-2.622422	-2.404223
origindum22	2.55829	.2467103	10.37	0.000	2.073552	3.043028
origindum23	2.225994	.0535064	41.60	0.000	2.120865	2.331124
origindum24	3.015559	.1760254	17.13	0.000	2.669703	3.361415
origindum25	.08864	.2075411	0.43	0.669	-.3191383	.4964184
origindum26	2.626659	.2971688	8.84	0.000	2.04278	3.210539
origindum27	-6.770971	.0921035	-73.51	0.000	-6.951937	-6.590006
origindum28	-4.584104	.0665302	-68.90	0.000	-4.714823	-4.453385
origindum29	-2.774651	.3746775	-7.41	0.000	-3.51082	-2.038482
origindum30	.9812453	.294619	3.33	0.001	.4023758	1.560115
origindum31	-.5479279	.1650154	-3.32	0.001	-.8721513	-.2237045
origindum32	4.698946	.074581	63.00	0.000	4.552408	4.845483
origindum33	4.147647	.1972157	21.03	0.000	3.760156	4.535138
origindum34	-7.412195	.1069139	-69.33	0.000	-7.62226	-7.20213
origindum35	2.179939	.0804288	27.10	0.000	2.021912	2.337966
origindum36	0	(omitted)				
cpairdum1	-2.522345	.0900043	-28.02	0.000	-2.699186	-2.345504
cpairdum2	-1.995016	.1152026	-17.32	0.000	-2.221367	-1.768665
cpairdum3	-1.293535	.2212187	-5.85	0.000	-1.728187	-.8588831
cpairdum4	-4.011041	.2121653	-18.91	0.000	-4.427905	-3.594177
cpairdum5	0	(omitted)				
cpairdum6	-5.684175	.1581312	-35.95	0.000	-5.994872	-5.373478
cpairdum7	-2.829341	.2585032	-10.95	0.000	-3.33725	-2.321432
cpairdum8	0	(omitted)				
cpairdum9	-6.700947	.2101548	-31.89	0.000	-7.113861	-6.288033
cpairdum10	0	(omitted)				
cpairdum11	0	(omitted)				
cpairdum12	-3.940012	.2607385	-15.11	0.000	-4.452313	-3.427711
cpairdum13	-3.541169	.211798	-16.72	0.000	-3.957311	-3.125027
cpairdum14	-4.263734	.1439045	-29.63	0.000	-4.546479	-3.98099
cpairdum15	-1.193533	.1891626	-6.31	0.000	-1.565201	-.8218649
cpairdum16	-2.071502	.1533884	-13.50	0.000	-2.372881	-1.770124
cpairdum17	0	(omitted)				
cpairdum18	-4.473309	.1172544	-38.15	0.000	-4.703691	-4.242927
cpairdum19	-4.869162	.3752536	-12.98	0.000	-5.606463	-4.131861
cpairdum20	-4.121622	.2758171	-14.94	0.000	-4.663549	-3.579695
cpairdum21	-3.305434	.0910027	-36.32	0.000	-3.484237	-3.126632
cpairdum22	0	(omitted)				
cpairdum23	-.09523	.0928388	-1.03	0.306	-.2776403	.0871804
cpairdum24	0	(omitted)				
cpairdum25	-9.285892	.1632508	-56.88	0.000	-9.606648	-8.965135
cpairdum26	-2.720248	.2394691	-11.36	0.000	-3.190759	-2.249738
cpairdum27	-3.491155	.2478225	-14.09	0.000	-3.978078	-3.004231
cpairdum28	0	(omitted)				
cpairdum29	0	(omitted)				
cpairdum30	0	(omitted)				
cpairdum31	0	(omitted)				
cpairdum32	0	(omitted)				
cpairdum33	-6.445727	.1603249	-40.20	0.000	-6.760735	-6.13072
cpairdum34	0	(omitted)				
cpairdum35	-1.125144	.2410441	-4.67	0.000	-1.598749	-.6515391
cpairdum36	1.530314	.0428859	35.68	0.000	1.446052	1.614577
cpairdum37	2.704533	.1649814	16.39	0.000	2.380376	3.02869
cpairdum38	2.314771	.3107866	7.45	0.000	1.704135	2.925406
cpairdum39	0	(omitted)				

cpairdum40	9.101497	.1627884	55.91	0.000	8.781649	9.421345
cpairdum41	-2.107367	.3716829	-5.67	0.000	-2.837652	-1.377082
cpairdum42	2.675884	.0394622	67.81	0.000	2.598348	2.753419
cpairdum43	3.68744	.0685325	53.81	0.000	3.552787	3.822093
cpairdum44	3.757221	.3088356	12.17	0.000	3.150418	4.364023
cpairdum45	6.219881	.2414481	25.76	0.000	5.745482	6.69428
cpairdum46	4.516005	.0589423	76.62	0.000	4.400195	4.631815
cpairdum47	-.3611011	.3155978	-1.14	0.253	-.9811899	.2589877
cpairdum48	1.277907	.1738766	7.35	0.000	.9362728	1.619541
cpairdum49	1.440505	.1133498	12.71	0.000	1.217794	1.663215
cpairdum50	4.865814	.1440323	33.78	0.000	4.582818	5.14881
cpairdum51	.6253816	.3206217	1.95	0.052	-.0045782	1.255341
cpairdum52	6.651577	.1597869	41.63	0.000	6.337627	6.965528
cpairdum53	1.731479	.1049033	16.51	0.000	1.525364	1.937593
cpairdum54	1.11696	.2991294	3.73	0.000	.5292284	1.704692
cpairdum55	-.6666274	.2009997	-3.32	0.001	-1.061553	-.2717016
cpairdum56	1.73698	.0804731	21.58	0.000	1.578866	1.895094
cpairdum57	4.988728	.1868039	26.71	0.000	4.621695	5.355762
cpairdum58	0	(omitted)				
cpairdum59	1.939262	.2969403	6.53	0.000	1.355832	2.522693
cpairdum60	-.1315553	.3299825	-0.40	0.690	-.7799073	.5167967
cpairdum61	4.869402	.1162053	41.90	0.000	4.641081	5.097723
cpairdum62	7.144956	.1899405	37.62	0.000	6.77176	7.518152
cpairdum63	7.488501	.1153802	64.90	0.000	7.261801	7.715201
cpairdum64	1.42196	.237504	5.99	0.000	.9553104	1.888609
cpairdum65	-2.199267	.2179114	-10.09	0.000	-2.627421	-1.771113
cpairdum66	-1.431092	.103663	-13.81	0.000	-1.63477	-1.227414
cpairdum67	8.923217	.1743929	51.17	0.000	8.580568	9.265865
cpairdum68	3.228347	.3404014	9.48	0.000	2.559524	3.89717
cpairdum69	3.321038	.1299938	25.55	0.000	3.065626	3.576451
cpairdum70	2.451914	.1221891	20.07	0.000	2.211836	2.691992
cpairdum71	2.10666	.1229407	17.14	0.000	1.865106	2.348215
cpairdum72	-.2173941	.1215975	-1.79	0.074	-.4563099	.0215216
cpairdum73	7.928566	.2181658	36.34	0.000	7.499912	8.35722
cpairdum74	2.801159	.1818126	15.41	0.000	2.443933	3.158386
cpairdum75	0	(omitted)				
cpairdum76	2.582511	.1380617	18.71	0.000	2.311246	2.853775
cpairdum77	3.640805	.2317129	15.71	0.000	3.185534	4.096076
cpairdum78	6.273692	.3577888	17.53	0.000	5.570706	6.976678
cpairdum79	5.962494	.1471386	40.52	0.000	5.673396	6.251593
cpairdum80	0	(omitted)				
cpairdum81	-1.050692	.1545913	-6.80	0.000	-1.354434	-.7469498
cpairdum82	2.516271	.1975816	12.74	0.000	2.128061	2.904481
cpairdum83	7.515321	.1716789	43.78	0.000	7.178005	7.852637
cpairdum84	1.44818	.2724299	5.32	0.000	.912908	1.983453
cpairdum85	3.116076	.201141	15.49	0.000	2.720872	3.511279
cpairdum86	2.478651	.0510195	48.58	0.000	2.378408	2.578895
cpairdum87	1.882104	.3626114	5.19	0.000	1.169642	2.594565
cpairdum88	1.836147	.1030176	17.82	0.000	1.633737	2.038557
cpairdum89	3.157543	.1658881	19.03	0.000	2.831605	3.483481
cpairdum90	4.670704	.3085798	15.14	0.000	4.064404	5.277004
cpairdum91	1.077527	.1093685	9.85	0.000	.8626394	1.292416
cpairdum92	0	(omitted)				
cpairdum93	2.634166	.2450289	10.75	0.000	2.152731	3.1156
cpairdum94	5.642061	.1897856	29.73	0.000	5.269169	6.014954
cpairdum95	9.182112	.1163408	78.92	0.000	8.953525	9.410699
cpairdum96	7.860696	.1816843	43.27	0.000	7.503721	8.21767
cpairdum97	6.010238	.1785255	33.67	0.000	5.65947	6.361006
cpairdum98	0	(omitted)				
cpairdum99	0	(omitted)				
cpairdum100	8.652615	.163074	53.06	0.000	8.332206	8.973024
cpairdum101	2.977666	.2418943	12.31	0.000	2.50239	3.452942
cpairdum102	0	(omitted)				

cpairdum103	0	(omitted)				
cpairdum104	0	(omitted)				
cpairdum105	0	(omitted)				
cpairdum106	0	(omitted)				
cpairdum107	0	(omitted)				
cpairdum108	0	(omitted)				
cpairdum109	0	(omitted)				
cpairdum110	0	(omitted)				
cpairdum111	0	(omitted)				
cpairdum112	0	(omitted)				
cpairdum113	0	(omitted)				
cpairdum114	0	(omitted)				
cpairdum115	0	(omitted)				
cpairdum116	0	(omitted)				
cpairdum117	0	(omitted)				
cpairdum118	0	(omitted)				
cpairdum119	0	(omitted)				
cpairdum120	0	(omitted)				
cpairdum121	.1058442	.0375678	2.82	0.005	.0320307	.1796577
cpairdum122	0	(omitted)				
cpairdum123	0	(omitted)				
cpairdum124	0	(omitted)				
cpairdum125	0	(omitted)				
cpairdum126	0	(omitted)				
cpairdum127	0	(omitted)				
cpairdum128	0	(omitted)				
cpairdum129	0	(omitted)				
cpairdum130	0	(omitted)				
cpairdum131	0	(omitted)				
cpairdum132	0	(omitted)				
cpairdum133	0	(omitted)				
cpairdum134	0	(omitted)				
cpairdum135	0	(omitted)				
cpairdum136	1.094589	.2633603	4.16	0.000	.5771368	1.612041
cpairdum137	.7930147	.0899667	8.81	0.000	.6162476	.9697819
cpairdum138	3.096728	.0036538	847.53	0.000	3.089549	3.103907
cpairdum139	0	(omitted)				
cpairdum140	0	(omitted)				
cpairdum141	-.322669	.1531134	-2.11	0.036	-.6235072	-.0218307
cpairdum142	3.18738	.2352045	13.55	0.000	2.725249	3.649512
cpairdum143	.7257684	.1280834	5.67	0.000	.4741093	.9774275
cpairdum144	0	(omitted)				
cpairdum145	0	(omitted)				
cpairdum146	-1.556394	.1357455	-11.47	0.000	-1.823108	-1.289681
cpairdum147	0	(omitted)				
cpairdum148	0	(omitted)				
cpairdum149	0	(omitted)				
cpairdum150	0	(omitted)				
cpairdum151	0	(omitted)				
cpairdum152	2.966971	.1286107	23.07	0.000	2.714275	3.219666
cpairdum153	0	(omitted)				
cpairdum154	0	(omitted)				
cpairdum155	0	(omitted)				
cpairdum156	3.860158	.256746	15.03	0.000	3.355702	4.364614
cpairdum157	0	(omitted)				
cpairdum158	.8851328	.1278595	6.92	0.000	.6339136	1.136352
cpairdum159	0	(omitted)				
cpairdum160	0	(omitted)				
cpairdum161	0	(omitted)				
cpairdum162	0	(omitted)				
cpairdum163	0	(omitted)				
cpairdum164	0	(omitted)				
cpairdum165	-1.386076	.1168702	-11.86	0.000	-1.615703	-1.156448

cpairdum166	8.504675	.2134642	39.84	0.000	8.085259	8.924091
cpairdum167	3.385474	.1400392	24.18	0.000	3.110324	3.660624
cpairdum168	.5782459	.3417372	1.69	0.091	-.0932017	1.249694
cpairdum169	-.3547144	.0385092	-9.21	0.000	-.4303777	-.2790512
cpairdum170	2.615069	.1037015	25.22	0.000	2.411315	2.818822
cpairdum171	2.659141	.0459578	57.86	0.000	2.568843	2.749439
cpairdum172	-.3029835	.0437669	-6.92	0.000	-.3889769	-.2169901
cpairdum173	0	(omitted)				
cpairdum174	.7685925	.1890121	4.07	0.000	.3972202	1.139965
cpairdum175	2.736387	.3311717	8.26	0.000	2.085699	3.387076
cpairdum176	3.871406	.0314948	122.92	0.000	3.809525	3.933288
cpairdum177	4.528044	.5765817	7.85	0.000	3.395172	5.660916
cpairdum178	3.253521	.3559078	9.14	0.000	2.554231	3.952812
cpairdum179	.3793742	.0719901	5.27	0.000	.2379275	.5208208
cpairdum180	.2809913	.1452825	1.93	0.054	-.0044608	.5664434
cpairdum181	2.072763	.3839102	5.40	0.000	1.318454	2.827073
cpairdum182	6.262342	.3249891	19.27	0.000	5.623801	6.900883
cpairdum183	1.235964	.027888	44.32	0.000	1.18117	1.290759
cpairdum184	4.904123	.3249629	15.09	0.000	4.265634	5.542612
cpairdum185	1.822958	.2403574	7.58	0.000	1.350702	2.295214
cpairdum186	.3752471	.1538443	2.44	0.015	.0729728	.6775215
cpairdum187	.9024876	.1141194	7.91	0.000	.678265	1.12671
cpairdum188	4.455946	.3921797	11.36	0.000	3.685388	5.226503
cpairdum189	0	(omitted)				
cpairdum190	3.810321	.2860188	13.32	0.000	3.248349	4.372292
cpairdum191	0	(omitted)				
cpairdum192	-.6963103	.3447681	-2.02	0.044	-1.373713	-.0189075
cpairdum193	1.741654	.070699	24.63	0.000	1.602744	1.880564
cpairdum194	0	(omitted)				
cpairdum195	2.652825	.3893114	6.81	0.000	1.887903	3.417747
cpairdum196	7.814897	.3566876	21.91	0.000	7.114075	8.51572
cpairdum197	6.079934	.4021075	15.12	0.000	5.28987	6.869998
cpairdum198	6.062385	.2025202	29.93	0.000	5.664472	6.460298
cpairdum199	1.620834	.1918118	8.45	0.000	1.243961	1.997708
cpairdum200	-.7108137	.2129158	-3.34	0.001	-1.129152	-.2924753
cpairdum201	6.709076	.2759407	24.31	0.000	6.166906	7.251246
cpairdum202	2.903885	.053827	53.95	0.000	2.798125	3.009644
cpairdum203	-3.561255	.2228139	-15.98	0.000	-3.999041	-3.123468
cpairdum204	-4.179532	.1801411	-23.20	0.000	-4.533474	-3.825589
cpairdum205	-5.384414	.2753419	-19.56	0.000	-5.925407	-4.84342
cpairdum206	-4.296873	.5681226	-7.56	0.000	-5.413125	-3.180622
cpairdum207	-7.222845	.2804753	-25.75	0.000	-7.773925	-6.671765
cpairdum208	1.659835	.2661878	6.24	0.000	1.136828	2.182843
cpairdum209	-4.653342	.3528561	-13.19	0.000	-5.346636	-3.960048
cpairdum210	-4.214032	.0836727	-50.36	0.000	-4.378433	-4.049632
cpairdum211	-2.645164	.5659043	-4.67	0.000	-3.757057	-1.533271
cpairdum212	0	(omitted)				
cpairdum213	-1.370713	.2120917	-6.46	0.000	-1.787432	-.9539936
cpairdum214	-7.376816	.4450092	-16.58	0.000	-8.251173	-6.502459
cpairdum215	-6.18104	.4628683	-13.35	0.000	-7.090487	-5.271593
cpairdum216	-3.716621	.1834988	-20.25	0.000	-4.077161	-3.356081
cpairdum217	1.352693	.2117027	6.39	0.000	.9367382	1.768648
cpairdum218	-4.322691	.5867398	-7.37	0.000	-5.475522	-3.16986
cpairdum219	-1.126427	.3239853	-3.48	0.001	-1.762995	-.4898582
cpairdum220	-2.822841	.3283863	-8.60	0.000	-3.468057	-2.177626
cpairdum221	-4.069129	.7113333	-5.72	0.000	-5.466761	-2.671496
cpairdum222	-4.501926	.4545587	-9.90	0.000	-5.395046	-3.608806
cpairdum223	-2.081485	.1962904	-10.60	0.000	-2.467157	-1.695812
cpairdum224	0	(omitted)				
cpairdum225	-3.064642	.1279675	-23.95	0.000	-3.316074	-2.813211
cpairdum226	0	(omitted)				
cpairdum227	-6.469445	.2535917	-25.51	0.000	-6.967703	-5.971186
cpairdum228	-7.429582	.4675651	-15.89	0.000	-8.348258	-6.510907

cpairdum229	-6.177935	.5657795	-10.92	0.000	-7.289583	-5.066287
cpairdum230	-.9293741	.1849592	-5.02	0.000	-1.292783	-.565965
cpairdum231	-.6985529	.3997952	-1.75	0.081	-1.484073	.0869675
cpairdum232	1.446147	.20278	7.13	0.000	1.047723	1.84457
cpairdum233	-.3455155	.5114365	-0.68	0.500	-1.35039	.6593586
cpairdum234	-4.685285	.3600541	-13.01	0.000	-5.392722	-3.977848
cpairdum235	-7.410952	.3714365	-19.95	0.000	-8.140753	-6.681151
cpairdum236	3.064146	.3035878	10.09	0.000	2.467655	3.660638
cpairdum237	-3.16944	.594453	-5.33	0.000	-4.337425	-2.001454
cpairdum238	-1.822973	.151631	-12.02	0.000	-2.120899	-1.525047
cpairdum239	-3.967108	.1810524	-21.91	0.000	-4.322841	-3.611375
cpairdum240	-1.836909	.2025737	-9.07	0.000	-2.234927	-1.438891
cpairdum241	-2.676714	.3054231	-8.76	0.000	-3.276812	-2.076617
cpairdum242	-5.189222	.2652308	-19.56	0.000	-5.71035	-4.668095
cpairdum243	1.790229	.0691621	25.88	0.000	1.654338	1.926119
cpairdum244	-3.587397	.2637929	-13.60	0.000	-4.105699	-3.069095
cpairdum245	-5.503009	.2313398	-23.79	0.000	-5.957547	-5.048471
cpairdum246	-2.085434	.278165	-7.50	0.000	-2.631975	-1.538893
cpairdum247	1.661045	.28409	5.85	0.000	1.102863	2.219227
cpairdum248	-.7846421	.1449812	-5.41	0.000	-1.069502	-.4997819
cpairdum249	-4.998685	.3137305	-15.93	0.000	-5.615105	-4.382265
cpairdum250	-4.549794	.1695641	-26.83	0.000	-4.882955	-4.216634
cpairdum251	-3.575978	.1396451	-25.61	0.000	-3.850354	-3.301602
cpairdum252	.8140384	.1271425	6.40	0.000	.5642278	1.063849
cpairdum253	-2.397556	.2939421	-8.16	0.000	-2.975096	-1.820017
cpairdum254	.1211585	.2229948	0.54	0.587	-.3169832	.5593003
cpairdum255	-4.74006	.1618793	-29.28	0.000	-5.058121	-4.421998
cpairdum256	-4.397645	.406598	-10.82	0.000	-5.196532	-3.598758
cpairdum257	-5.721395	.1999484	-28.61	0.000	-6.114255	-5.328535
cpairdum258	-4.289807	.1672349	-25.65	0.000	-4.618392	-3.961223
cpairdum259	0	(omitted)				
cpairdum260	-5.338739	.1742661	-30.64	0.000	-5.681138	-4.996339
cpairdum261	-3.842004	.3090583	-12.43	0.000	-4.449244	-3.234764
cpairdum262	-3.466341	.3238473	-10.70	0.000	-4.102639	-2.830044
cpairdum263	.4556609	.1370264	3.33	0.001	.1864304	.7248913
cpairdum264	2.558297	.098489	25.98	0.000	2.364785	2.751809
cpairdum265	1.141957	.1584549	7.21	0.000	.8306234	1.45329
cpairdum266	-.85073	.2124603	-4.00	0.000	-1.268174	-.4332864
cpairdum267	-3.195159	.1787233	-17.88	0.000	-3.546316	-2.844002
cpairdum268	-5.025809	.1921664	-26.15	0.000	-5.403379	-4.648239
cpairdum269	2.873698	.0292522	98.24	0.000	2.816223	2.931173
cpairdum270	-2.074613	.3195312	-6.49	0.000	-2.702431	-1.446796
cpairdum271	-4.568221	.2491286	-18.34	0.000	-5.05771	-4.078731
cpairdum272	-4.254692	.0293089	-145.17	0.000	-4.312278	-4.197105
cpairdum273	-2.645952	.0179733	-147.22	0.000	-2.681266	-2.610638
cpairdum274	-4.026887	.1350761	-29.81	0.000	-4.292286	-3.761489
cpairdum275	-5.870666	.0950913	-61.74	0.000	-6.057502	-5.68383
cpairdum276	1.113235	.156137	7.13	0.000	.8064553	1.420014
cpairdum277	-3.410579	.0581077	-58.69	0.000	-3.524749	-3.296408
cpairdum278	-3.1501	.1427954	-22.06	0.000	-3.430665	-2.869534
cpairdum279	-2.070866	.2922638	-7.09	0.000	-2.645108	-1.496624
cpairdum280	0	(omitted)				
cpairdum281	-1.560507	.2820821	-5.53	0.000	-2.114743	-1.00627
cpairdum282	-5.846758	.1500059	-38.98	0.000	-6.141491	-5.552025
cpairdum283	-4.315606	.0647385	-66.66	0.000	-4.442805	-4.188408
cpairdum284	-3.651736	.2806076	-13.01	0.000	-4.203076	-3.100397
cpairdum285	.4240601	.2978669	1.42	0.155	-.161191	1.009311
cpairdum286	-3.602959	.1229895	-29.29	0.000	-3.84461	-3.361308
cpairdum287	-1.249129	.1848219	-6.76	0.000	-1.612268	-.8859897
cpairdum288	-3.435519	.1669079	-20.58	0.000	-3.763461	-3.107577
cpairdum289	-3.480499	.2553983	-13.63	0.000	-3.982307	-2.978691
cpairdum290	-5.076572	.0589075	-86.18	0.000	-5.192314	-4.96083
cpairdum291	-3.699001	.2894105	-12.78	0.000	-4.267637	-3.130365

cpairdum292	.3971269	.1957914	2.03	0.043	.0124346	.7818192
cpairdum293	-5.304728	.1599488	-33.17	0.000	-5.618996	-4.990459
cpairdum294	-3.413982	.1184783	-28.82	0.000	-3.646769	-3.181195
cpairdum295	-4.385799	.0853167	-51.41	0.000	-4.55343	-4.218168
cpairdum296	-3.12456	.2782955	-11.23	0.000	-3.671357	-2.577763
cpairdum297	2.310104	.1590629	14.52	0.000	1.997576	2.622632
cpairdum298	1.579457	.3593973	4.39	0.000	.8733106	2.285604
cpairdum299	0	(omitted)				
cpairdum300	-4.768039	.1743703	-27.34	0.000	-5.110643	-4.425435
cpairdum301	-6.178721	.1734583	-35.62	0.000	-6.519533	-5.837909
cpairdum302	1.283653	.2051543	6.26	0.000	.8805647	1.686742
cpairdum303	-4.622436	.3809282	-12.13	0.000	-5.370886	-3.873985
cpairdum304	.1523535	.0910793	1.67	0.095	-.0265997	.3313067
cpairdum305	.0306719	.139872	0.22	0.827	-.2441496	.3054934
cpairdum306	1.52697	.1489734	10.25	0.000	1.234266	1.819674
cpairdum307	.6868961	.2384283	2.88	0.004	.2184305	1.155362
cpairdum308	-1.796117	.1683314	-10.67	0.000	-2.126856	-1.465378
cpairdum309	3.92504	.1872055	20.97	0.000	3.557217	4.292863
cpairdum310	-.6313775	.1727097	-3.66	0.000	-.9707186	-.2920363
cpairdum311	-.0122095	.2172114	-0.06	0.955	-.4389881	.414569
cpairdum312	3.134938	.1173386	26.72	0.000	2.90439	3.365486
cpairdum313	1.030644	.2078396	4.96	0.000	.6222795	1.439009
cpairdum314	4.401314	.1907802	23.07	0.000	4.026468	4.77616
cpairdum315	-2.259013	.2095389	-10.78	0.000	-2.670717	-1.847309
cpairdum316	-.6473875	.079564	-8.14	0.000	-.8037155	-.4910596
cpairdum317	.874569	.1759183	4.97	0.000	.5289236	1.220215
cpairdum318	5.295482	.1598437	33.13	0.000	4.98142	5.609544
cpairdum319	.5171143	.2155043	2.40	0.017	.09369	.9405387
cpairdum320	5.99848	.1684524	35.61	0.000	5.667504	6.329457
cpairdum321	0	(omitted)				
cpairdum322	-1.155845	.3533062	-3.27	0.001	-1.850024	-.4616669
cpairdum323	-1.338044	.1620909	-8.25	0.000	-1.656521	-1.019566
cpairdum324	.173285	.1213601	1.43	0.154	-.0651642	.4117342
cpairdum325	4.283934	.1650228	25.96	0.000	3.959696	4.608172
cpairdum326	-3.394061	.0928584	-36.55	0.000	-3.57651	-3.211613
cpairdum327	.087907	.190336	0.46	0.644	-.2860666	.4618805
cpairdum328	-1.089195	.0881024	-12.36	0.000	-1.262299	-.9160906
cpairdum329	0	(omitted)				
cpairdum330	7.895724	.1131693	69.77	0.000	7.673368	8.11808
cpairdum331	5.606961	.1807394	31.02	0.000	5.251843	5.962079
cpairdum332	3.063549	.1819706	16.84	0.000	2.706012	3.421086
cpairdum333	0	(omitted)				
cpairdum334	-3.516809	.065051	-54.06	0.000	-3.644622	-3.388997
cpairdum335	6.768966	.14159	47.81	0.000	6.490769	7.047163
cpairdum336	.7559274	.2577003	2.93	0.004	.249596	1.262259
cpairdum337	-4.309768	.2371243	-18.18	0.000	-4.775671	-3.843865
cpairdum338	-5.665047	.4714441	-12.02	0.000	-6.591343	-4.73875
cpairdum339	-5.084585	.2757804	-18.44	0.000	-5.62644	-4.542729
cpairdum340	-5.399423	.6888673	-7.84	0.000	-6.752914	-4.045932
cpairdum341	-8.097187	.2983289	-27.14	0.000	-8.683346	-7.511028
cpairdum342	.8916076	.2827618	3.15	0.002	.3360352	1.44718
cpairdum343	-4.540636	.5054688	-8.98	0.000	-5.533785	-3.547487
cpairdum344	-6.930203	.449161	-15.43	0.000	-7.812718	-6.047688
cpairdum345	-3.741558	.2190705	-17.08	0.000	-4.17199	-3.311127
cpairdum346	-4.558814	.4162522	-10.95	0.000	-5.376669	-3.740958
cpairdum347	0	(omitted)				
cpairdum348	-2.833735	.2157804	-13.13	0.000	-3.257702	-2.409768
cpairdum349	-6.697792	.5009816	-13.37	0.000	-7.682125	-5.71346
cpairdum350	-4.600843	.1987692	-23.15	0.000	-4.991386	-4.210299
cpairdum351	-1.134037	.2070811	-5.48	0.000	-1.540911	-.7271623
cpairdum352	-5.227754	.5996846	-8.72	0.000	-6.406019	-4.04949
cpairdum353	-1.560594	.3466375	-4.50	0.000	-2.24167	-.8795184
cpairdum354	-4.847492	.336039	-14.43	0.000	-5.507744	-4.18724

cpairdum355	-6.178403	.5432149	-11.37	0.000	-7.245715	-5.11109
cpairdum356	-5.806697	.4681452	-12.40	0.000	-6.726512	-4.886882
cpairdum357	-4.821554	.2006417	-24.03	0.000	-5.215776	-4.427332
cpairdum358	0	(omitted)				
cpairdum359	-3.577745	.1352845	-26.45	0.000	-3.843553	-3.311937
cpairdum360	0	(omitted)				
cpairdum361	-6.530882	.2622848	-24.90	0.000	-7.046221	-6.015543
cpairdum362	-6.14806	.6031323	-10.19	0.000	-7.333099	-4.963021
cpairdum363	-6.459665	.5683985	-11.36	0.000	-7.576458	-5.342871
cpairdum364	-2.391156	.2081682	-11.49	0.000	-2.800167	-1.982146
cpairdum365	2.004279	.3515744	5.70	0.000	1.313503	2.695055
cpairdum366	.6412793	.2336483	2.74	0.006	.1822054	1.100353
cpairdum367	-1.70489	.5053989	-3.37	0.001	-2.697902	-.7118787
cpairdum368	-5.959019	.3601474	-16.55	0.000	-6.666639	-5.251398
cpairdum369	-7.509025	.3638204	-20.64	0.000	-8.223862	-6.794188
cpairdum370	1.477984	.3152107	4.69	0.000	.8586558	2.097312
cpairdum371	-5.671433	.8281652	-6.85	0.000	-7.298618	-4.044248
cpairdum372	-.7983753	.15564	-5.13	0.000	-1.104178	-.4925727
cpairdum373	-3.59383	.066044	-54.42	0.000	-3.723593	-3.464066
cpairdum374	-4.706969	.0861126	-54.66	0.000	-4.876164	-4.537774
cpairdum375	-2.087572	.2016579	-10.35	0.000	-2.483791	-1.691353
cpairdum376	-4.471037	.0799636	-55.91	0.000	-4.62815	-4.313924
cpairdum377	.8677821	.2714251	3.20	0.001	.334484	1.40108
cpairdum378	-5.150006	.0373068	-138.04	0.000	-5.223307	-5.076706
cpairdum379	-3.651932	.1338685	-27.28	0.000	-3.914958	-3.388906
cpairdum380	-1.250004	.2693189	-4.64	0.000	-1.779163	-.7208439
cpairdum381	-1.878765	.1052033	-17.86	0.000	-2.085469	-1.672061
cpairdum382	0	(omitted)				
cpairdum383	-1.531728	.273833	-5.59	0.000	-2.069757	-.9936986
cpairdum384	-4.972984	.1614638	-30.80	0.000	-5.290229	-4.655739
cpairdum385	-2.515193	.3098104	-8.12	0.000	-3.123911	-1.906475
cpairdum386	-1.09973	.300029	-3.67	0.000	-1.689229	-.510231
cpairdum387	-6.344359	.1012975	-62.63	0.000	-6.543389	-6.145329
cpairdum388	1.927487	.2240903	8.60	0.000	1.487192	2.367781
cpairdum389	-2.986123	.0753248	-39.64	0.000	-3.134122	-2.838125
cpairdum390	-3.63187	.215704	-16.84	0.000	-4.055687	-3.208053
cpairdum391	-2.640687	.0708159	-37.29	0.000	-2.779826	-2.501547
cpairdum392	-1.85872	.2912064	-6.38	0.000	-2.430884	-1.286555
cpairdum393	0	(omitted)				
cpairdum394	-2.186471	.2101228	-10.41	0.000	-2.599321	-1.77362
cpairdum395	0	(omitted)				
cpairdum396	-8.116412	.2402441	-33.78	0.000	-8.588445	-7.644378
cpairdum397	-3.781152	.1287358	-29.37	0.000	-4.034093	-3.528211
cpairdum398	-4.067427	.1060022	-38.37	0.000	-4.275701	-3.859153
cpairdum399	-.7013559	.1788425	-3.92	0.000	-1.052747	-.3499648
cpairdum400	1.573426	.1651858	9.53	0.000	1.248868	1.897985
cpairdum401	1.317818	.2711862	4.86	0.000	.7849894	1.850647
cpairdum402	0	(omitted)				
cpairdum403	0	(omitted)				
cpairdum404	-5.926885	.1468378	-40.36	0.000	-6.215393	-5.638377
cpairdum405	3.387947	.2202171	15.38	0.000	2.955262	3.820631
cpairdum406	-1.52571	.2297762	-6.64	0.000	-1.977176	-1.074244
cpairdum407	-2.297001	.182305	-12.60	0.000	-2.655195	-1.938807
cpairdum408	0	(omitted)				
cpairdum409	0	(omitted)				
cpairdum410	-1.475883	.1331915	-11.08	0.000	-1.737579	-1.214188
cpairdum411	-2.082402	.0936322	-22.24	0.000	-2.266372	-1.898433
cpairdum412	0	(omitted)				
cpairdum413	-1.704091	.0654555	-26.03	0.000	-1.832699	-1.575484
cpairdum414	1.117393	.1332329	8.39	0.000	.8556162	1.37917
cpairdum415	1.436271	.2789283	5.15	0.000	.8882306	1.984311
cpairdum416	1.357199	.1256104	10.80	0.000	1.110399	1.603999
cpairdum417	4.566024	.4510831	10.12	0.000	3.679733	5.452315

cpairdum418	-.0621657	.2512117	-0.25	0.805	-.5557483	.4314169
cpairdum419	.1102582	.1386199	0.80	0.427	-.1621031	.3826196
cpairdum420	.218136	.0899531	2.42	0.016	.0413955	.3948765
cpairdum421	2.618107	.2266594	11.55	0.000	2.172766	3.063449
cpairdum422	-.6102983	.1217453	-5.01	0.000	-.8495043	-.3710922
cpairdum423	1.684706	.195123	8.63	0.000	1.301327	2.068085
cpairdum424	-1.542457	.0893336	-17.27	0.000	-1.717981	-1.366934
cpairdum425	-.2756206	.2877987	-0.96	0.339	-.8410897	.2898484
cpairdum426	-4.145941	.0543695	-76.25	0.000	-4.252766	-4.039115
cpairdum427	-1.687019	.2400804	-7.03	0.000	-2.15873	-1.215307
cpairdum428	3.658767	.2028996	18.03	0.000	3.260108	4.057425
cpairdum429	-5.518473	.2275196	-24.25	0.000	-5.965505	-5.071441
cpairdum430	.2771597	.1267697	2.19	0.029	.0280816	.5262377
cpairdum431	-2.730679	.1029853	-26.52	0.000	-2.933025	-2.528333
cpairdum432	1.555142	.2281515	6.82	0.000	1.106868	2.003416
cpairdum433	4.209349	.0768173	54.80	0.000	4.058418	4.36028
cpairdum434	7.140573	.2593607	27.53	0.000	6.630979	7.650166
cpairdum435	-.2174572	.0598427	-3.63	0.000	-.3350366	-.0998778
cpairdum436	-2.550544	.1164633	-21.90	0.000	-2.779372	-2.321716
cpairdum437	-4.87875	.1519396	-32.11	0.000	-5.177282	-4.580218
cpairdum438	0	(omitted)				
cpairdum439	.2755106	.1575506	1.75	0.081	-.0340459	.5850671
cpairdum440	-4.349574	.1450196	-29.99	0.000	-4.63451	-4.064639
cpairdum441	-3.329792	.1301234	-25.59	0.000	-3.58546	-3.074125
cpairdum442	-2.602667	.192616	-13.51	0.000	-2.981121	-2.224214
cpairdum443	-2.290331	.3119425	-7.34	0.000	-2.903238	-1.677424
cpairdum444	-5.061841	.282486	-17.92	0.000	-5.616871	-4.50681
cpairdum445	-.2498699	.0518495	-4.82	0.000	-.3517442	-.1479955
cpairdum446	-2.924787	.2846613	-10.27	0.000	-3.484091	-2.365482
cpairdum447	-1.960451	.3187124	-6.15	0.000	-2.586659	-1.334242
cpairdum448	-1.818038	.168773	-10.77	0.000	-2.149645	-1.486432
cpairdum449	-1.914921	.2978233	-6.43	0.000	-2.500086	-1.329755
cpairdum450	.2298862	.3225788	0.71	0.476	-.4039189	.8636914
cpairdum451	.1901963	.1670262	1.14	0.255	-.1379779	.5183705
cpairdum452	-4.360662	.3154905	-13.82	0.000	-4.98054	-3.740784
cpairdum453	-4.266165	.1765818	-24.16	0.000	-4.613114	-3.919216
cpairdum454	-4.518837	.1104585	-40.91	0.000	-4.735867	-4.301807
cpairdum455	-2.737039	.3122993	-8.76	0.000	-3.350647	-2.123431
cpairdum456	0	(omitted)				
cpairdum457	-1.669383	.1849971	-9.02	0.000	-2.032867	-1.3059
cpairdum458	-3.658174	.4512902	-8.11	0.000	-4.544872	-2.771476
cpairdum459	-3.692545	.2000753	-18.46	0.000	-4.085655	-3.299436
cpairdum460	-.5707491	.1749129	-3.26	0.001	-.9144193	-.2270789
cpairdum461	0	(omitted)				
cpairdum462	-6.640897	.1951497	-34.03	0.000	-7.024329	-6.257466
cpairdum463	-3.425782	.298293	-11.48	0.000	-4.01187	-2.839694
cpairdum464	-3.829139	.2972279	-12.88	0.000	-4.413134	-3.245143
cpairdum465	-1.379705	.1329645	-10.38	0.000	-1.640954	-1.118455
cpairdum466	1.530322	.1301624	11.76	0.000	1.274578	1.786066
cpairdum467	2.945525	.1547354	19.04	0.000	2.6415	3.24955
cpairdum468	-4.447459	.3735302	-11.91	0.000	-5.181373	-3.713544
cpairdum469	-5.43431	.220279	-24.67	0.000	-5.867116	-5.001505
cpairdum470	-6.108197	.1854438	-32.94	0.000	-6.472558	-5.743835
cpairdum471	2.638096	.0683341	38.61	0.000	2.503833	2.77236
cpairdum472	-2.086788	.3350649	-6.23	0.000	-2.745126	-1.42845
cpairdum473	-.9926743	.0912408	-10.88	0.000	-1.171945	-.8134037
cpairdum474	-2.978172	.2467029	-12.07	0.000	-3.462895	-2.493448
cpairdum475	-4.894284	.3299317	-14.83	0.000	-5.542536	-4.246032
cpairdum476	-1.223459	.291337	-4.20	0.000	-1.79588	-.6510381
cpairdum477	-4.76502	.3475776	-13.71	0.000	-5.447943	-4.082097
cpairdum478	4.112625	.1582642	25.99	0.000	3.801667	4.423584
cpairdum479	-.6670333	.2921785	-2.28	0.023	-1.241108	-.0929588
cpairdum480	-4.147528	.4111623	-10.09	0.000	-4.955383	-3.339674

cpairdum481	0	(omitted)				
cpairdum482	-.3692436	.3787708	-0.97	0.330	-1.113455	.3749679
cpairdum483	3.169616	.2065436	15.35	0.000	2.763798	3.575435
cpairdum484	0	(omitted)				
cpairdum485	-5.526531	.4185658	-13.20	0.000	-6.348932	-4.704129
cpairdum486	-7.351591	.2438427	-30.15	0.000	-7.830695	-6.872487
cpairdum487	-1.372103	.0645031	-21.27	0.000	-1.498839	-1.245366
cpairdum488	3.196102	.0593142	53.88	0.000	3.079561	3.312643
cpairdum489	0	(omitted)				
cpairdum490	0	(omitted)				
cpairdum491	-2.918454	.5011655	-5.82	0.000	-3.903148	-1.93376
cpairdum492	-3.149778	.3064449	-10.28	0.000	-3.751883	-2.547673
cpairdum493	0	(omitted)				
cpairdum494	.5125387	.1595079	3.21	0.001	.1991365	.8259409
cpairdum495	-1.772443	.0830124	-21.35	0.000	-1.935546	-1.60934
cpairdum496	-4.196607	.3947162	-10.63	0.000	-4.972149	-3.421066
cpairdum497	-4.37325	.3828184	-11.42	0.000	-5.125414	-3.621086
cpairdum498	2.283783	.1372905	16.63	0.000	2.014033	2.553532
cpairdum499	4.760314	.1566979	30.38	0.000	4.452433	5.068195
cpairdum500	4.81816	.0625341	77.05	0.000	4.695293	4.941028
cpairdum501	1.619978	.28673	5.65	0.000	1.056609	2.183347
cpairdum502	-2.020579	.1196892	-16.88	0.000	-2.255746	-1.785413
cpairdum503	-5.735632	.2008587	-28.56	0.000	-6.130281	-5.340984
cpairdum504	4.869974	.1600541	30.43	0.000	4.555498	5.184449
cpairdum505	-.4136891	.32008	-1.29	0.197	-1.042585	.2152064
cpairdum506	-2.017135	.2557947	-7.89	0.000	-2.519722	-1.514547
cpairdum507	-3.298422	.3122423	-10.56	0.000	-3.911918	-2.684926
cpairdum508	-.7704882	.4974289	-1.55	0.122	-1.74784	.2068636
cpairdum509	-2.300219	.5720216	-4.02	0.000	-3.424131	-1.176307
cpairdum510	-4.276698	.2762161	-15.48	0.000	-4.81941	-3.733987
cpairdum511	3.662726	.3259931	11.24	0.000	3.022212	4.303239
cpairdum512	-1.20345	.5338324	-2.25	0.025	-2.252327	-.1545719
cpairdum513	-2.044762	.5720433	-3.57	0.000	-3.168717	-.9208075
cpairdum514	-.5370497	.2021751	-2.66	0.008	-.9342849	-.1398146
cpairdum515	-.3273666	.5859094	-0.56	0.577	-1.478566	.8238324
cpairdum516	3.914255	.0467075	83.80	0.000	3.822483	4.006026
cpairdum517	-.0400323	.2091124	-0.19	0.848	-.4508978	.3708332
cpairdum518	-3.124387	.4045789	-7.72	0.000	-3.919307	-2.329468
cpairdum519	-2.222785	.4234649	-5.25	0.000	-3.054812	-1.390758
cpairdum520	-2.775956	.2552653	-10.87	0.000	-3.277503	-2.274408
cpairdum521	2.260842	.2559773	8.83	0.000	1.757896	2.763788
cpairdum522	-1.312877	.5550787	-2.37	0.018	-2.4035	-.2222543
cpairdum523	.8599483	.3399236	2.53	0.012	.1920641	1.527833
cpairdum524	-2.600088	.3629666	-7.16	0.000	-3.313247	-1.886928
cpairdum525	-2.508079	.4766252	-5.26	0.000	-3.444556	-1.571602
cpairdum526	-.6013631	.2127572	-2.83	0.005	-1.01939	-.1833362
cpairdum527	0	(omitted)				
cpairdum528	2.034101	.3506009	5.80	0.000	1.345237	2.722964
cpairdum529	0	(omitted)				
cpairdum530	-4.083592	.2506056	-16.29	0.000	-4.575983	-3.5912
cpairdum531	-1.361037	.5434504	-2.50	0.013	-2.428812	-.2932614
cpairdum532	-4.075844	.5533749	-7.37	0.000	-5.163119	-2.988569
cpairdum533	-.1695659	.2526017	-0.67	0.502	-.6658795	.3267477
cpairdum534	3.814991	.3794589	10.05	0.000	3.069428	4.560555
cpairdum535	4.2727	.229277	18.64	0.000	3.822215	4.723185
cpairdum536	1.615156	.5352529	3.02	0.003	.5634872	2.666825
cpairdum537	-3.812656	.2317238	-16.45	0.000	-4.267948	-3.357363
cpairdum538	-4.79217	.3498651	-13.70	0.000	-5.479588	-4.104753
cpairdum539	3.764646	.3895322	9.66	0.000	2.999291	4.530002
cpairdum540	-.9640749	.59968	-1.61	0.109	-2.14233	.2141808
cpairdum541	-5.377204	.0474041	-113.43	0.000	-5.470344	-5.284064
cpairdum542	-4.598142	.0374131	-122.90	0.000	-4.671651	-4.524632
cpairdum543	-2.741543	.0859257	-31.91	0.000	-2.910371	-2.572716

cpairdum544	-3.022518	.2412315	-12.53	0.000	-3.496492	-2.548545
cpairdum545	-4.281979	.1317271	-32.51	0.000	-4.540797	-4.02316
cpairdum546	0	(omitted)				
cpairdum547	0	(omitted)				
cpairdum548	-3.121041	.1761783	-17.72	0.000	-3.467197	-2.774885
cpairdum549	-3.061763	.2289615	-13.37	0.000	-3.511628	-2.611898
cpairdum550	-3.376099	.1879831	-17.96	0.000	-3.74545	-3.006749
cpairdum551	0	(omitted)				
cpairdum552	-3.304892	.1978884	-16.70	0.000	-3.693705	-2.91608
cpairdum553	-4.278349	.1846044	-23.18	0.000	-4.641061	-3.915637
cpairdum554	-3.788729	.0660555	-57.36	0.000	-3.918516	-3.658943
cpairdum555	-3.121887	.1841238	-16.96	0.000	-3.483655	-2.760119
cpairdum556	.0509242	.1761851	0.29	0.773	-.2952456	.3970939
cpairdum557	-2.29572	.1654608	-13.87	0.000	-2.620819	-1.970622
cpairdum558	-.603565	.0807901	-7.47	0.000	-.7623019	-.4448282
cpairdum559	-3.620212	.098751	-36.66	0.000	-3.814239	-3.426185
cpairdum560	-5.248917	.2981026	-17.61	0.000	-5.834631	-4.663203
cpairdum561	-7.038528	.2600881	-27.06	0.000	-7.549551	-6.527505
cpairdum562	0	(omitted)				
cpairdum563	.0894521	.115839	0.77	0.440	-.1381493	.3170535
cpairdum564	0	(omitted)				
cpairdum565	0	(omitted)				
cpairdum566	-2.007682	.1503654	-13.35	0.000	-2.303121	-1.712243
cpairdum567	-6.544589	.1374206	-47.62	0.000	-6.814594	-6.274584
cpairdum568	-2.623883	.0767047	-34.21	0.000	-2.774593	-2.473174
cpairdum569	0	(omitted)				
cpairdum570	3.772167	.196503	19.20	0.000	3.386077	4.158258
cpairdum571	0	(omitted)				
cpairdum572	-3.310305	.1300731	-25.45	0.000	-3.565874	-3.054737
cpairdum573	-6.752817	.1140958	-59.19	0.000	-6.976994	-6.528641
cpairdum574	0	(omitted)				
cpairdum575	-2.003449	.2762619	-7.25	0.000	-2.546251	-1.460648
cpairdum576	-.297598	.1152399	-2.58	0.010	-.5240221	-.0711738
cpairdum577	-.2089672	.0573754	-3.64	0.000	-.3216988	-.0962356
cpairdum578	1.90512	.0554369	34.37	0.000	1.796197	2.014042
cpairdum579	.7872241	.1604767	4.91	0.000	.4719183	1.10253
cpairdum580	-.7752017	.0609603	-12.72	0.000	-.8949769	-.6554265
cpairdum581	4.764005	.1915723	24.87	0.000	4.387602	5.140408
cpairdum582	0	(omitted)				
cpairdum583	1.878072	.1026817	18.29	0.000	1.676322	2.079821
cpairdum584	2.180279	.2954362	7.38	0.000	1.599803	2.760754
cpairdum585	1.022692	.0808654	12.65	0.000	.8638073	1.181577
cpairdum586	0	(omitted)				
cpairdum587	1.660873	.2555132	6.50	0.000	1.158838	2.162907
cpairdum588	.3244325	.1024492	3.17	0.002	.1231395	.5257255
cpairdum589	.4681799	.0960905	4.87	0.000	.2793807	.6569791
cpairdum590	.2228281	.284448	0.78	0.434	-.3360573	.7817135
cpairdum591	7.513756	.2931444	25.63	0.000	6.937784	8.089728
cpairdum592	1.761582	.0862242	20.43	0.000	1.592168	1.930995
cpairdum593	2.785565	.202483	13.76	0.000	2.387725	3.183405
cpairdum594	-.1091034	.1195226	-0.91	0.362	-.3439424	.1257355
cpairdum595	-1.108087	.2092111	-5.30	0.000	-1.519147	-.6970276
cpairdum596	-3.332417	.4212171	-7.91	0.000	-4.160027	-2.504807
cpairdum597	0	(omitted)				
cpairdum598	2.249426	.2555262	8.80	0.000	1.747366	2.751485
cpairdum599	0	(omitted)				
cpairdum600	-3.032822	.1723299	-17.60	0.000	-3.371417	-2.694227
cpairdum601	2.098114	.0942923	22.25	0.000	1.912848	2.283381
cpairdum602	-1.083756	.0858188	-12.63	0.000	-1.252373	-.915138
cpairdum603	.9016195	.1588733	5.68	0.000	.589464	1.213775
cpairdum604	3.240564	.1253357	25.86	0.000	2.994304	3.486825
cpairdum605	7.285623	.2868325	25.40	0.000	6.722052	7.849194
cpairdum606	0	(omitted)				

cpairdum607	.1003508	.185017	0.54	0.588	-.263172	.4638735
cpairdum608	-2.067065	.1550925	-13.33	0.000	-2.371791	-1.762338
cpairdum609	5.382307	.1741462	30.91	0.000	5.040143	5.724471
cpairdum610	1.975783	.1798185	10.99	0.000	1.622474	2.329091
cpairdum611	-1.061375	.2669677	-3.98	0.000	-1.585915	-.5368346
cpairdum612	-2.960485	.0307839	-96.17	0.000	-3.02097	-2.900001
cpairdum613	-2.402468	.2060707	-11.66	0.000	-2.807357	-1.997579
cpairdum614	-1.006708	.0949908	-10.60	0.000	-1.193347	-.8200695
cpairdum615	-3.925738	.085729	-45.79	0.000	-4.094179	-3.757297
cpairdum616	3.76018	.2822122	13.32	0.000	3.205687	4.314673
cpairdum617	-2.157858	.0512743	-42.08	0.000	-2.258602	-2.057114
cpairdum618	-5.028977	.1142566	-44.01	0.000	-5.25347	-4.804485
cpairdum619	-.5667386	.2523811	-2.25	0.025	-1.062619	-.0708583
cpairdum620	-1.055103	.0898324	-11.75	0.000	-1.231606	-.8785993
cpairdum621	2.046827	.4900747	4.18	0.000	1.083924	3.009729
cpairdum622	.3540783	.2737321	1.29	0.196	-.1837525	.891909
cpairdum623	-4.543779	.1535929	-29.58	0.000	-4.845559	-4.241998
cpairdum624	-3.859245	.0285663	-135.10	0.000	-3.915372	-3.803118
cpairdum625	-1.357877	.3060738	-4.44	0.000	-1.959253	-.7565005
cpairdum626	2.454181	.2913055	8.42	0.000	1.881822	3.026541
cpairdum627	-1.889634	.1165837	-16.21	0.000	-2.118699	-1.66057
cpairdum628	1.072101	.2031451	5.28	0.000	.6729605	1.471242
cpairdum629	-.0476189	.1781999	-0.27	0.789	-.3977474	.3025096
cpairdum630	-3.302138	.2197132	-15.03	0.000	-3.733832	-2.870443
cpairdum631	-2.405686	.058094	-41.41	0.000	-2.51983	-2.291543
cpairdum632	-1.662284	.298313	-5.57	0.000	-2.248412	-1.076157
cpairdum633	-2.232715	.1060836	-21.05	0.000	-2.441149	-2.024282
cpairdum634	-3.913441	.2571167	-15.22	0.000	-4.418626	-3.408257
cpairdum635	-3.060925	.0943371	-32.45	0.000	-3.246279	-2.87557
cpairdum636	.3616796	.288232	1.25	0.210	-.2046408	.9279999
cpairdum637	3.941141	.1317707	29.91	0.000	3.682237	4.200045
cpairdum638	3.90341	.2861823	13.64	0.000	3.341117	4.465703
cpairdum639	0	(omitted)				
cpairdum640	-3.21919	.1717981	-18.74	0.000	-3.55674	-2.88164
cpairdum641	-4.711874	.1524761	-30.90	0.000	-5.01146	-4.412287
cpairdum642	5.685877	.2108631	26.96	0.000	5.271571	6.100182
cpairdum643	.0446039	.1222863	0.36	0.715	-.1956652	.2848729
cpairdum644	-2.541062	.0786545	-32.31	0.000	-2.695602	-2.386521
cpairdum645	-5.766102	.2590382	-22.26	0.000	-6.275063	-5.257142
cpairdum646	-4.348943	.2837635	-15.33	0.000	-4.906484	-3.791403
cpairdum647	-4.552283	.3990193	-11.41	0.000	-5.336279	-3.768287
cpairdum648	-5.453701	.3452782	-15.80	0.000	-6.132106	-4.775296
cpairdum649	4.171995	.1068728	39.04	0.000	3.962011	4.38198
cpairdum650	-5.621716	.3173944	-17.71	0.000	-6.245335	-4.998098
cpairdum651	-5.246727	.4070259	-12.89	0.000	-6.046455	-4.447
cpairdum652	-2.183217	.1005441	-21.71	0.000	-2.380767	-1.985667
cpairdum653	-4.539563	.3723649	-12.19	0.000	-5.271188	-3.807938
cpairdum654	-2.924837	.1488865	-19.64	0.000	-3.21737	-2.632304
cpairdum655	-2.981528	.1487668	-20.04	0.000	-3.273826	-2.68923
cpairdum656	-5.051036	.3940846	-12.82	0.000	-5.825336	-4.276735
cpairdum657	-5.216215	.2542261	-20.52	0.000	-5.71572	-4.71671
cpairdum658	0	(omitted)				
cpairdum659	0	(omitted)				
cpairdum660	-5.610034	.3762839	-14.91	0.000	-6.349359	-4.870709
cpairdum661	1.294044	.1651621	7.83	0.000	.9695318	1.618555
cpairdum662	-6.98437	.1391531	-50.19	0.000	-7.257779	-6.710961
cpairdum663	-5.31159	.5144474	-10.32	0.000	-6.32238	-4.3008
cpairdum664	-4.414209	.3225137	-13.69	0.000	-5.047886	-3.780531
cpairdum665	0	(omitted)				
cpairdum666	-1.426527	.1364254	-10.46	0.000	-1.694577	-1.158478
cpairdum667	-6.277022	.11913	-52.69	0.000	-6.51109	-6.042955
cpairdum668	-4.560803	.3893903	-11.71	0.000	-5.32588	-3.795726
cpairdum669	0	(omitted)				

cpairdum670	4.542662	.1951828	23.27	0.000	4.159166	4.926159
cpairdum671	0	(omitted)				
cpairdum672	-4.81158	.2892706	-16.63	0.000	-5.379941	-4.243219
cpairdum673	0	(omitted)				
cpairdum674	-7.602762	.1606347	-47.33	0.000	-7.918378	-7.287146
cpairdum675	-.4099978	.1571084	-2.61	0.009	-.7186855	-.1013101
cpairdum676	-2.127152	.4210653	-5.05	0.000	-2.954464	-1.299839
cpairdum677	3.587954	.0380089	94.40	0.000	3.513274	3.662634
cpairdum678	4.343256	.2846362	15.26	0.000	3.784001	4.902512
cpairdum679	3.987048	.2535375	15.73	0.000	3.488896	4.4852
cpairdum680	3.116634	.3370026	9.25	0.000	2.454489	3.778779
cpairdum681	1.429326	.2976277	4.80	0.000	.8445449	2.014107
cpairdum682	7.445346	.163558	45.52	0.000	7.123986	7.766706
cpairdum683	3.104336	.119537	25.97	0.000	2.869469	3.339203
cpairdum684	1.031998	.3900716	2.65	0.008	.2655826	1.798414
cpairdum685	5.404839	.0410531	131.65	0.000	5.324178	5.4855
cpairdum686	5.379413	.3174695	16.94	0.000	4.755647	6.00318
cpairdum687	8.611345	.2176246	39.57	0.000	8.183755	9.038936
cpairdum688	5.366411	.0476442	112.64	0.000	5.2728	5.460023
cpairdum689	3.149576	.3309617	9.52	0.000	2.4993	3.799852
cpairdum690	1.970572	.184079	10.71	0.000	1.608892	2.332252
cpairdum691	3.733548	.106638	35.01	0.000	3.524025	3.943071
cpairdum692	8.246712	.0888226	92.84	0.000	8.072192	8.421231
cpairdum693	3.939223	.3248067	12.13	0.000	3.30104	4.577405
cpairdum694	7.213241	.1818773	39.66	0.000	6.855887	7.570595
cpairdum695	4.106032	.1181871	34.74	0.000	3.873817	4.338247
cpairdum696	3.856779	.4825724	7.99	0.000	2.908618	4.804941
cpairdum697	1.886001	.2538033	7.43	0.000	1.387327	2.384676
cpairdum698	6.396504	.0424399	150.72	0.000	6.313118	6.47989
cpairdum699	7.134758	.1715327	41.59	0.000	6.79773	7.471787
cpairdum700	0	(omitted)				
cpairdum701	3.596501	.3168016	11.35	0.000	2.974047	4.218955
cpairdum702	1.733701	.3527815	4.91	0.000	1.040553	2.426849
cpairdum703	2.694862	.1157535	23.28	0.000	2.467429	2.922296
cpairdum704	10.72068	.1043639	102.72	0.000	10.51562	10.92573
cpairdum705	5.774007	.1157069	49.90	0.000	5.546665	6.001348
cpairdum706	4.43688	.1292038	34.34	0.000	4.183019	4.69074
cpairdum707	.9390017	.1600763	5.87	0.000	.6244827	1.253521
cpairdum708	10.31978	.1707009	60.46	0.000	9.98439	10.65518
cpairdum709	4.544094	.3659374	12.42	0.000	3.825097	5.26309
cpairdum710	-1.542742	.2176955	-7.09	0.000	-1.970472	-1.115013
cpairdum711	.4956184	.0338583	14.64	0.000	.4290933	.5621434
cpairdum712	0	(omitted)				
cpairdum713	-.0240489	.1460333	-0.16	0.869	-.3109762	.2628785
cpairdum714	-2.467355	.1004842	-24.55	0.000	-2.664787	-2.269923
cpairdum715	0	(omitted)				
cpairdum716	-1.075763	.0525694	-20.46	0.000	-1.179052	-.9724744
cpairdum717	-.6245705	.1424046	-4.39	0.000	-.9043682	-.3447729
cpairdum718	1.73648	.2908232	5.97	0.000	1.165069	2.307891
cpairdum719	.8616392	.0987021	8.73	0.000	.6677087	1.05557
cpairdum720	3.395079	.4755763	7.14	0.000	2.460663	4.329495
cpairdum721	1.800927	.2783899	6.47	0.000	1.253944	2.34791
cpairdum722	-1.532214	.1485819	-10.31	0.000	-1.824149	-1.240279
cpairdum723	-.7215505	.0745396	-9.68	0.000	-.8680066	-.5750945
cpairdum724	-2.017751	.2758781	-7.31	0.000	-2.559798	-1.475704
cpairdum725	3.368657	.2768905	12.17	0.000	2.82462	3.912693
cpairdum726	-.5594703	.1280524	-4.37	0.000	-.8110685	-.3078721
cpairdum727	.6586623	.1835641	3.59	0.000	.2979943	1.01933
cpairdum728	.4080318	.1604432	2.54	0.011	.0927919	.7232716
cpairdum729	-.561801	.2467459	-2.28	0.023	-1.046609	-.0769929
cpairdum730	-2.675813	.0727065	-36.80	0.000	-2.818667	-2.532959
cpairdum731	.3000335	.2629773	1.14	0.254	-.2166661	.8167332
cpairdum732	3.379546	.1990761	16.98	0.000	2.9884	3.770692

cpairdum733	-5.937452	.2118505	-28.03	0.000	-6.353697	-5.521206
cpairdum734	.1250457	.1214257	1.03	0.304	-.1135324	.3636239
cpairdum735	-2.394873	.0918792	-26.07	0.000	-2.575398	-2.214349
cpairdum736	.5072534	.2556779	1.98	0.048	.0048957	1.009611
cpairdum737	4.235944	.1413311	29.97	0.000	3.958256	4.513632
cpairdum738	.7342366	.0158733	46.26	0.000	.7030486	.7654247
cpairdum739	-2.230779	.1682524	-13.26	0.000	-2.561362	-1.900195
cpairdum740	-2.912919	.1756867	-16.58	0.000	-3.258109	-2.567728
cpairdum741	2.693257	.1584883	16.99	0.000	2.381858	3.004656
cpairdum742	-.4836198	.17225	-2.81	0.005	-.8220577	-.1451818
cpairdum743	0	(omitted)				
cpairdum744	-1.148325	.2126721	-5.40	0.000	-1.566185	-.7304657
cpairdum745	.7524649	.2552249	2.95	0.003	.2509971	1.253933
cpairdum746	.5014764	.341688	1.47	0.143	-.1698747	1.172828
cpairdum747	-2.025383	.3158891	-6.41	0.000	-2.646044	-1.404722
cpairdum748	4.758625	.1763427	26.99	0.000	4.412145	5.105104
cpairdum749	3.326937	.1675175	19.86	0.000	2.997797	3.656076
cpairdum750	1.897031	.3429995	5.53	0.000	1.223103	2.570959
cpairdum751	2.555876	.0461469	55.39	0.000	2.465206	2.646546
cpairdum752	1.214617	.3317433	3.66	0.000	.5628052	1.866428
cpairdum753	5.013876	.2204679	22.74	0.000	4.580699	5.447053
cpairdum754	1.73468	.0487632	35.57	0.000	1.63887	1.830491
cpairdum755	-.6110814	.3420599	-1.79	0.075	-1.283163	.0610004
cpairdum756	-1.46638	.1955511	-7.50	0.000	-1.8506	-1.08216
cpairdum757	-.6839936	.0647665	-10.56	0.000	-.8112473	-.5567399
cpairdum758	3.737271	.1419439	26.33	0.000	3.458379	4.016164
cpairdum759	-.6782068	.3413416	-1.99	0.047	-1.348877	-.0075364
cpairdum760	5.939764	.148801	39.92	0.000	5.647398	6.232129
cpairdum761	.5490242	.1286858	4.27	0.000	.2961813	.8018671
cpairdum762	1.609088	.5022552	3.20	0.001	.6222536	2.595923
cpairdum763	-.8591255	.2170551	-3.96	0.000	-1.285597	-.432654
cpairdum764	4.363952	.0597483	73.04	0.000	4.246558	4.481346
cpairdum765	3.32971	.1441162	23.10	0.000	3.046549	3.61287
cpairdum766	0	(omitted)				
cpairdum767	1.358432	.3238687	4.19	0.000	.7220926	1.994772
cpairdum768	-.3094348	.3438344	-0.90	0.369	-.985003	.3661334
cpairdum769	5.95523	.0882515	67.48	0.000	5.781833	6.128628
cpairdum770	5.718	.0269761	211.97	0.000	5.664997	5.771002
cpairdum771	6.54667	.0929393	70.44	0.000	6.364063	6.729278
cpairdum772	.4322305	.190114	2.27	0.023	.0586932	.8057678
cpairdum773	-2.553339	.1392578	-18.34	0.000	-2.826953	-2.279724
cpairdum774	6.735038	.1743984	38.62	0.000	6.392378	7.077697
cpairdum775	1.387682	.3626233	3.83	0.000	.6751967	2.100167
cpairdum776	0	(omitted)				
cpairdum777	0	(omitted)				
cpairdum778	2.459447	.1096678	22.43	0.000	2.243971	2.674923
cpairdum779	0	(omitted)				
cpairdum780	0	(omitted)				
cpairdum781	0	(omitted)				
cpairdum782	0	(omitted)				
cpairdum783	1.484963	.0500173	29.69	0.000	1.386688	1.583237
cpairdum784	3.322755	.3688352	9.01	0.000	2.598065	4.047445
cpairdum785	0	(omitted)				
cpairdum786	5.148399	.5724449	8.99	0.000	4.023655	6.273143
cpairdum787	2.577939	.360429	7.15	0.000	1.869765	3.286112
cpairdum788	0	(omitted)				
cpairdum789	.4820311	.1698185	2.84	0.005	.1483704	.8156918
cpairdum790	1.198344	.3621807	3.31	0.001	.486729	1.90996
cpairdum791	5.818671	.473732	12.28	0.000	4.887879	6.749463
cpairdum792	0	(omitted)				
cpairdum793	0	(omitted)				
cpairdum794	-1.490175	.2187944	-6.81	0.000	-1.920063	-1.060286
cpairdum795	0	(omitted)				

cpairdum796	-.0571256	.143015	-0.40	0.690	-.3381226	.2238714
cpairdum797	.0345991	.3753499	0.09	0.927	-.7028911	.7720893
cpairdum798	2.567256	.3015564	8.51	0.000	1.974756	3.159757
cpairdum799	0	(omitted)				
cpairdum800	.4103641	.0367099	11.18	0.000	.3382362	.482492
cpairdum801	0	(omitted)				
cpairdum802	.8238064	.3712906	2.22	0.027	.094292	1.553321
cpairdum803	7.295046	.1847932	39.48	0.000	6.931963	7.658129
cpairdum804	4.048874	.3810066	10.63	0.000	3.300269	4.797478
cpairdum805	2.690634	.0738346	36.44	0.000	2.545563	2.835705
cpairdum806	-2.830256	.2258864	-12.53	0.000	-3.274079	-2.386433
cpairdum807	8.343311	.246313	33.87	0.000	7.859353	8.827268
cpairdum808	0	(omitted)				
cpairdum809	0	(omitted)				
cpairdum810	-2.595961	.1713258	-15.15	0.000	-2.932583	-2.259339
cpairdum811	-.8680794	.185978	-4.67	0.000	-1.23349	-.5026684
cpairdum812	-1.708642	.2848782	-6.00	0.000	-2.268373	-1.148912
cpairdum813	-3.521058	.2234477	-15.76	0.000	-3.96009	-3.082027
cpairdum814	0	(omitted)				
cpairdum815	-1.413176	.2301313	-6.14	0.000	-1.86534	-.9610126
cpairdum816	-1.727041	.2819106	-6.13	0.000	-2.280941	-1.173141
cpairdum817	.396622	.0352033	11.27	0.000	.3274543	.4657897
cpairdum818	-2.84683	.2504986	-11.36	0.000	-3.339012	-2.354649
cpairdum819	0	(omitted)				
cpairdum820	-.5479919	.0808857	-6.77	0.000	-.7069167	-.389067
cpairdum821	-3.088736	.2718453	-11.36	0.000	-3.62286	-2.554612
cpairdum822	-2.419575	.1277015	-18.95	0.000	-2.670484	-2.168666
cpairdum823	-1.588659	.1183016	-13.43	0.000	-1.821099	-1.356219
cpairdum824	-.0365547	.1141916	-0.32	0.749	-.2609191	.1878097
cpairdum825	-3.03498	.2579102	-11.77	0.000	-3.541723	-2.528236
cpairdum826	.9423986	.1254362	7.51	0.000	.6959406	1.188857
cpairdum827	-3.161667	.054822	-57.67	0.000	-3.269382	-3.053952
cpairdum828	-3.736151	.3986995	-9.37	0.000	-4.519518	-2.952783
cpairdum829	-3.885101	.1963543	-19.79	0.000	-4.270899	-3.499303
cpairdum830	-3.045932	.0844223	-36.08	0.000	-3.211805	-2.880058
cpairdum831	1.353712	.1245821	10.87	0.000	1.108932	1.598492
cpairdum832	0	(omitted)				
cpairdum833	-1.881691	.2590123	-7.26	0.000	-2.3906	-1.372782
cpairdum834	-3.080852	.1642744	-18.75	0.000	-3.40362	-2.758085
cpairdum835	1.974555	.0831035	23.76	0.000	1.811272	2.137837
cpairdum836	3.134654	.1075833	29.14	0.000	2.923274	3.346034
cpairdum837	3.39285	.1103527	30.75	0.000	3.176029	3.609672
cpairdum838	0	(omitted)				
cpairdum839	0	(omitted)				
cpairdum840	2.481665	.0971332	25.55	0.000	2.290817	2.672513
cpairdum841	.0154068	.3103293	0.05	0.960	-.5943304	.6251441
cpairdum842	-1.395044	.1390051	-10.04	0.000	-1.668163	-1.121926
cpairdum843	-.2128263	.2430709	-0.88	0.382	-.6904138	.2647612
cpairdum844	.4143978	.2153011	1.92	0.055	-.0086274	.8374231
cpairdum845	-.6712944	.3538459	-1.90	0.058	-1.366533	.0239446
cpairdum846	-2.570472	.3328899	-7.72	0.000	-3.224536	-1.916407
cpairdum847	0	(omitted)				
cpairdum848	.6685068	.2737854	2.44	0.015	.1305713	1.206442
cpairdum849	-.0449276	.3722501	-0.12	0.904	-.7763273	.6864721
cpairdum850	.9204111	.1919529	4.79	0.000	.5432606	1.297562
cpairdum851	1.191057	.3376362	3.53	0.000	.5276672	1.854447
cpairdum852	4.340456	.2880901	15.07	0.000	3.774415	4.906498
cpairdum853	1.037732	.170764	6.08	0.000	.7022136	1.37325
cpairdum854	-1.288224	.371172	-3.47	0.001	-2.017505	-.5589424
cpairdum855	-1.234558	.2320447	-5.32	0.000	-1.690481	-.7786348
cpairdum856	-1.993046	.1673336	-11.91	0.000	-2.321824	-1.664268
cpairdum857	2.507294	.1078605	23.25	0.000	2.295369	2.719219
cpairdum858	-.71656	.3516033	-2.04	0.042	-1.407393	-.0257273

cpairdum859	0	(omitted)				
cpairdum860	-.5772922	.2258157	-2.56	0.011	-1.020977	-.133608
cpairdum861	-.5762449	.4940943	-1.17	0.244	-1.547045	.3945551
cpairdum862	-1.519222	.295234	-5.15	0.000	-2.0993	-.9391444
cpairdum863	.1578105	.1637487	0.96	0.336	-.1639241	.4795452
cpairdum864	1.303642	.3241291	4.02	0.000	.6667904	1.940493
cpairdum865	2.124765	.0492474	43.14	0.000	2.028003	2.221526
cpairdum866	1.040569	.3221675	3.23	0.001	.4075717	1.673566
cpairdum867	0	(omitted)				
cpairdum868	.1899263	.351284	0.54	0.589	-.5002791	.8801318
cpairdum869	-1.613369	.3234402	-4.99	0.000	-2.248867	-.9778714
cpairdum870	-.4282711	.0946585	-4.52	0.000	-.6142569	-.2422854
cpairdum871	4.647768	.1346867	34.51	0.000	4.383134	4.912401
cpairdum872	4.207067	.1466476	28.69	0.000	3.918933	4.495201
cpairdum873	2.018437	.2489154	8.11	0.000	1.529366	2.507508
cpairdum874	-1.665468	.1954679	-8.52	0.000	-2.049525	-1.281411
cpairdum875	-4.663229	.2206877	-21.13	0.000	-5.096838	-4.22962
cpairdum876	.7215373	.3991032	1.81	0.071	-.0626235	1.505698
cpairdum877	-3.201915	.2237604	-14.31	0.000	-3.641561	-2.762269
cpairdum878	-6.161122	.1481048	-41.60	0.000	-6.452119	-5.870125
cpairdum879	-4.436438	.1646814	-26.94	0.000	-4.760005	-4.112871
cpairdum880	-7.315507	.2217546	-32.99	0.000	-7.751212	-6.879802
cpairdum881	-6.154974	.2370289	-25.97	0.000	-6.62069	-5.689258
cpairdum882	-1.305352	.0485112	-26.91	0.000	-1.400667	-1.210037
cpairdum883	-6.849785	.2032946	-33.69	0.000	-7.249219	-6.45035
cpairdum884	-4.669157	.2821324	-16.55	0.000	-5.223492	-4.114821
cpairdum885	-3.684648	.2657703	-13.86	0.000	-4.206835	-3.16246
cpairdum886	-6.358793	.472343	-13.46	0.000	-7.286856	-5.43073
cpairdum887	-4.152464	.3867802	-10.74	0.000	-4.912413	-3.392516
cpairdum888	-3.335964	.2489709	-13.40	0.000	-3.825144	-2.846784
cpairdum889	-7.669596	.474713	-16.16	0.000	-8.602316	-6.736877
cpairdum890	-6.324788	.2388787	-26.48	0.000	-6.794139	-5.855438
cpairdum891	-4.710054	.2197622	-21.43	0.000	-5.141844	-4.278264
cpairdum892	1.215897	.2313769	5.26	0.000	.761286	1.670508
cpairdum893	-4.041606	.1910439	-21.16	0.000	-4.41697	-3.666241
cpairdum894	0	(omitted)				
cpairdum895	-2.735082	.2382154	-11.48	0.000	-3.20313	-2.267035
cpairdum896	-5.871394	.3541056	-16.58	0.000	-6.567143	-5.175645
cpairdum897	-5.407209	.2276613	-23.75	0.000	-5.85452	-4.959899
cpairdum898	-4.427083	.2123254	-20.85	0.000	-4.844262	-4.009905
cpairdum899	0	(omitted)				
cpairdum900	-1.551411	.1142776	-13.58	0.000	-1.775945	-1.326878
cpairdum901	0	(omitted)				
cpairdum902	-8.669943	.3032615	-28.59	0.000	-9.265793	-8.074093
cpairdum903	-4.886472	.2689919	-18.17	0.000	-5.414989	-4.357955
cpairdum904	-6.076252	.2535184	-23.97	0.000	-6.574367	-5.578137
cpairdum905	-2.663945	.2239766	-11.89	0.000	-3.104016	-2.223874
cpairdum906	.3132918	.1328103	2.36	0.019	.0523452	.5742383
cpairdum907	-2.224682	.2154055	-10.33	0.000	-2.647912	-1.801452
cpairdum908	-4.41898	.1628575	-27.13	0.000	-4.738963	-4.098996
cpairdum909	-8.389779	.2396916	-35.00	0.000	-8.860727	-7.918831
cpairdum910	-7.550722	.2295687	-32.89	0.000	-8.00178	-7.099664
cpairdum911	-.3557706	.0898325	-3.96	0.000	-.5322741	-.1792671
_cons	-18.28195	1.123509	-16.27	0.000	-20.48943	-16.07448

```
3 .
4 .
```

Appendix D: Complete results of PPML Model 1

```
1 .  ppml inflow lndist eps lntargetgdp lnorigingdp contig comlang_off colony comcol targetdum* or
> igindum* , cluster(dist)
note: checking the existence of the estimates
WARNING: lntargetgdp has very large values, consider rescaling  or recentering
WARNING: lnorigingdp has very large values, consider rescaling  or recentering
note: starting ppml estimation
note: targetdum27 omitted because of collinearity
note: origindum36 omitted because of collinearity
note: inflow has noninteger values

Iteration 1:   deviance =  2.62e+07
Iteration 2:   deviance =  2.02e+07
Iteration 3:   deviance =  1.95e+07
Iteration 4:   deviance =  1.94e+07
Iteration 5:   deviance =  1.94e+07
Iteration 6:   deviance =  1.94e+07
Iteration 7:   deviance =  1.94e+07
Iteration 8:   deviance =  1.94e+07
Iteration 9:   deviance =  1.94e+07
Iteration 10:  deviance =  1.94e+07
Iteration 11:  deviance =  1.94e+07

Number of parameters: 71
Number of observations: 14725
Number of observations dropped: 0
Pseudo log-likelihood: -9708652.1
R-squared: .42739218
                                (Std. Err. adjusted for 522 clusters in dist)
```

inflow	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
lndist	-.4370482	.0620997	-7.04	0.000	-.5587614	-.315335
eps	-.209306	.0511609	-4.09	0.000	-.3095795	-.1090325
lntargetgdp	1.293795	.1365063	9.48	0.000	1.026247	1.561342
lnorigingdp	.5196554	.1580829	3.29	0.001	.2098187	.8294922
contig	.0919657	.16126	0.57	0.568	-.2240981	.4080295
comlang_off	.4387978	.1421984	3.09	0.002	.1600942	.7175015
colony	.1850543	.1496439	1.24	0.216	-.1082423	.478351
targetdum1	1.70685	.4241652	4.02	0.000	.875501	2.538198
targetdum2	1.362313	.5686617	2.40	0.017	.2477563	2.476869
targetdum3	2.13147	.507767	4.20	0.000	1.136265	3.126675
targetdum4	.660934	.3700754	1.79	0.074	-.0644004	1.386268
targetdum5	1.764049	.59639	2.96	0.003	.595146	2.932952
targetdum6	1.672968	.5456804	3.07	0.002	.6034541	2.742482
targetdum7	1.709874	.6361537	2.69	0.007	.4630355	2.956712
targetdum8	.0333188	.2460966	0.14	0.892	-.4490217	.5156593
targetdum9	-.3768027	.2434189	-1.55	0.122	-.853895	.1002896
targetdum10	.4448773	.5726053	0.78	0.437	-.6774084	1.567163
targetdum11	2.429578	.6524692	3.72	0.000	1.150762	3.708394
targetdum12	2.355773	.56477	4.17	0.000	1.248844	3.462702
targetdum13	-.1647714	.3098356	-0.53	0.595	-.7720379	.4424952
targetdum14	-1.327743	.2435929	-5.45	0.000	-1.805177	-.8503098
targetdum15	-.1411297	.3486069	-0.40	0.686	-.8243866	.5421272
targetdum16	1.588298	.4120823	3.85	0.000	.7806316	2.395965
targetdum17	1.331842	.4974946	2.68	0.007	.3567705	2.306914
targetdum18	1.462593	.4953906	2.95	0.003	.4916451	2.433541
targetdum19	1.584291	.5931535	2.67	0.008	.4217314	2.74685
targetdum20	1.930505	.7095289	2.72	0.007	.5398538	3.321156
targetdum21	1.028337	.9083858	1.13	0.258	-.7520666	2.80874
targetdum22	1.130455	.3917121	2.89	0.004	.3627133	1.898197
targetdum23	1.843979	.4634215	3.98	0.000	.9356898	2.752269

targetdum24	1.442339	.5550019	2.60	0.009	.3545554	2.530123
targetdum25	.2051963	.4111189	0.50	0.618	-.6005819	1.010974
targetdum26	.5876215	.2856674	2.06	0.040	.0277236	1.147519
targetdum27	0	(omitted)				
origindum1	-1.081345	.4785697	-2.26	0.024	-2.019324	-.1433656
origindum2	-1.185229	.7215184	-1.64	0.100	-2.599379	.2289207
origindum3	-.3345873	.6222232	-0.54	0.591	-1.554122	.8849478
origindum4	-1.227464	.4862491	-2.52	0.012	-2.180495	-.2744335
origindum5	-3.182288	.8852456	-3.59	0.000	-4.917337	-1.447238
origindum6	-2.841903	.8614585	-3.30	0.001	-4.530331	-1.153475
origindum7	-1.257528	.7044156	-1.79	0.074	-2.638158	.1231009
origindum8	-4.137386	1.194367	-3.46	0.001	-6.478303	-1.796469
origindum9	-1.068997	.7716784	-1.39	0.166	-2.581459	.4434649
origindum10	-.4476342	.3820037	-1.17	0.241	-1.196348	.3010793
origindum11	-.5184398	.329424	-1.57	0.116	-1.164099	.1272194
origindum12	-3.04723	.9164826	-3.32	0.001	-4.843503	-1.250957
origindum13	-1.371137	.8721521	-1.57	0.116	-3.080524	.3382494
origindum14	-1.076836	1.156952	-0.93	0.352	-3.344421	1.190749
origindum15	-.7082674	.7864089	-0.90	0.368	-2.2496	.8330657
origindum16	-2.385948	.7500486	-3.18	0.001	-3.856017	-.9158799
origindum17	-1.317614	.4656324	-2.83	0.005	-2.230237	-.4049917
origindum18	-.5306715	.2117699	-2.51	0.012	-.9457329	-.1156101
origindum19	-1.715357	.5174344	-3.32	0.001	-2.72951	-.701204
origindum20	-6.44153	1.402105	-4.59	0.000	-9.189605	-3.693455
origindum21	-5.412148	1.408015	-3.84	0.000	-8.171808	-2.652489
origindum22	1.815847	.9993082	1.82	0.069	-.1427606	3.774455
origindum23	-2.443401	.5177826	-4.72	0.000	-3.458236	-1.428566
origindum24	.6763743	.5486406	1.23	0.218	-.3989416	1.75169
origindum25	-2.453653	.9163184	-2.68	0.007	-4.249604	-.6577015
origindum26	-1.12312	.7000898	-1.60	0.109	-2.495271	.2490309
origindum27	-2.641963	.6595167	-4.01	0.000	-3.934592	-1.349334
origindum28	-1.944343	.8638499	-2.25	0.024	-3.637457	-.2512282
origindum29	-2.746901	.9939871	-2.76	0.006	-4.69508	-.7987223
origindum30	-3.781133	1.098696	-3.44	0.001	-5.934537	-1.627729
origindum31	-.8196546	.5202916	-1.58	0.115	-1.839407	.2000982
origindum32	-.5024199	.6262774	-0.80	0.422	-1.729901	.7250611
origindum33	-.0410067	.569738	-0.07	0.943	-1.157673	1.075659
origindum34	-3.945547	.6697478	-5.89	0.000	-5.258228	-2.632865
origindum35	-.1293393	.3821855	-0.34	0.735	-.8784091	.6197306
origindum36	0	(omitted)				
_cons	-14.71042	2.502751	-5.88	0.000	-19.61573	-9.805122

Number of regressors dropped to ensure that the estimates exist: 1
Dropped variables: comcol
Option strict is off

Appendix E: Complete results of PPML Model 2

```
2 . ppml inflow eps lntargetgdp lnorigingdp targetdum* origindum* cpairdum*, cluster(dist)
  note: checking the existence of the estimates
  WARNING: lntargetgdp has very large values, consider rescaling  or recentering
  WARNING: lnorigingdp has very large values, consider rescaling  or recentering
  note: starting ppml estimation
  note: targetdum27 omitted because of collinearity
  note: origindum36 omitted because of collinearity
  note: cpairdum68 omitted because of collinearity
  note: cpairdum101 omitted because of collinearity
  note: cpairdum134 omitted because of collinearity
  note: cpairdum167 omitted because of collinearity
  note: cpairdum202 omitted because of collinearity
  note: cpairdum237 omitted because of collinearity
  note: cpairdum270 omitted because of collinearity
  note: cpairdum303 omitted because of collinearity
  note: cpairdum371 omitted because of collinearity
  note: cpairdum406 omitted because of collinearity
  note: cpairdum439 omitted because of collinearity
  note: cpairdum472 omitted because of collinearity
  note: cpairdum505 omitted because of collinearity
  note: cpairdum540 omitted because of collinearity
  note: cpairdum575 omitted because of collinearity
  note: cpairdum610 omitted because of collinearity
  note: cpairdum643 omitted because of collinearity
  note: cpairdum676 omitted because of collinearity
  note: cpairdum709 omitted because of collinearity
  note: cpairdum742 omitted because of collinearity
  note: cpairdum775 omitted because of collinearity
  note: cpairdum808 omitted because of collinearity
  note: cpairdum841 omitted because of collinearity
  note: cpairdum864 omitted because of collinearity
  note: cpairdum866 omitted because of collinearity
  note: cpairdum875 omitted because of collinearity
  note: cpairdum876 omitted because of collinearity
  note: cpairdum877 omitted because of collinearity
  note: cpairdum878 omitted because of collinearity
  note: cpairdum879 omitted because of collinearity
  note: cpairdum880 omitted because of collinearity
  note: cpairdum881 omitted because of collinearity
  note: cpairdum882 omitted because of collinearity
  note: cpairdum883 omitted because of collinearity
```

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note: cpairdum884 omitted because of collinearity
note: cpairdum885 omitted because of collinearity
note: cpairdum886 omitted because of collinearity
note: cpairdum887 omitted because of collinearity
note: cpairdum888 omitted because of collinearity
note: cpairdum889 omitted because of collinearity
note: cpairdum890 omitted because of collinearity
note: cpairdum891 omitted because of collinearity
note: cpairdum892 omitted because of collinearity
note: cpairdum893 omitted because of collinearity
note: cpairdum894 omitted because of collinearity
note: cpairdum895 omitted because of collinearity
note: cpairdum896 omitted because of collinearity
note: cpairdum897 omitted because of collinearity
note: cpairdum898 omitted because of collinearity
note: cpairdum900 omitted because of collinearity
note: cpairdum902 omitted because of collinearity
note: cpairdum903 omitted because of collinearity
note: cpairdum904 omitted because of collinearity
note: cpairdum905 omitted because of collinearity
note: cpairdum906 omitted because of collinearity
note: cpairdum907 omitted because of collinearity
note: cpairdum908 omitted because of collinearity
note: cpairdum909 omitted because of collinearity
note: cpairdum910 omitted because of collinearity
note: cpairdum911 omitted because of collinearity
note: inflow has noninteger values

Iteration 1:   deviance =  2.30e+07
Iteration 2:   deviance =  1.68e+07
Iteration 3:   deviance =  1.60e+07
Iteration 4:   deviance =  1.59e+07
Iteration 5:   deviance =  1.59e+07
Iteration 6:   deviance =  1.59e+07
Iteration 7:   deviance =  1.59e+07
Iteration 8:   deviance =  1.59e+07
Iteration 9:   deviance =  1.59e+07
Iteration 10:  deviance =  1.59e+07
Iteration 11:  deviance =  1.59e+07
Iteration 12:  deviance =  1.59e+07
Iteration 13:  deviance =  1.59e+07
Iteration 14:  deviance =  1.59e+07
Iteration 15:  deviance =  1.59e+07
Iteration 16:  deviance =  1.59e+07

Number of parameters: 883
Number of observations: 14409
Number of observations dropped: 316
Pseudo log-likelihood: -7968244.7
R-squared: .47622332
                                (Std. Err. adjusted for 492 clusters in dist)
```

inflow	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
eps	-.1994645	.0510131	-3.91	0.000	-.2994482	-.0994807
lntargetgdp	1.298829	.139658	9.30	0.000	1.025105	1.572554
lnorigingdp	.5006262	.1524718	3.28	0.001	.201787	.7994655
targetdum1	2.690898	.3742849	7.19	0.000	1.957313	3.424483
targetdum2	.078535	.5261529	0.15	0.881	-.9527057	1.109776
targetdum3	1.278591	.4784485	2.67	0.008	.3408495	2.216333
targetdum4	1.747431	.3350893	5.21	0.000	1.090668	2.404194
targetdum5	.4945357	.621991	0.80	0.427	-.7245443	1.713616

targetdum6	1.010559	.5648303	1.79	0.074	-.0964883	2.117606
targetdum7	-.6880842	.6047442	-1.14	0.255	-1.873361	.4971926
targetdum8	-.3689614	.2542767	-1.45	0.147	-.8673345	.1294117
targetdum9	-.8108087	.215452	-3.76	0.000	-1.233087	-.3885305
targetdum10	-1.266487	.5398214	-2.35	0.019	-2.324517	-.208456
targetdum11	.6559962	.667172	0.98	0.325	-.6516369	1.963629
targetdum12	2.161362	.5764977	3.75	0.000	1.031447	3.291276
targetdum13	-1.500435	.276174	-5.43	0.000	-2.041726	-.9591437
targetdum14	-1.489288	.1186861	-12.55	0.000	-1.721908	-1.256667
targetdum15	-.6952061	.3768055	-1.84	0.065	-1.433731	.0433191
targetdum16	1.585812	.4240272	3.74	0.000	.7547338	2.41689
targetdum17	.985883	.5232614	1.88	0.060	-.0396905	2.011456
targetdum18	-.0632119	.5041676	-0.13	0.900	-1.051362	.9249385
targetdum19	-.6144352	.584288	-1.05	0.293	-1.759619	.5307483
targetdum20	-.5040537	.7156456	-0.70	0.481	-1.906693	.8985859
targetdum21	-2.539218	.7822234	-3.25	0.001	-4.072348	-1.006088
targetdum22	.3364847	.347931	0.97	0.333	-.3454475	1.018417
targetdum23	1.438694	.4901012	2.94	0.003	.4781138	2.399275
targetdum24	1.753174	.4768008	3.68	0.000	.8186621	2.687687
targetdum25	-.8366792	.4141256	-2.02	0.043	-1.64835	-.0250079
targetdum26	1.095785	.2435481	4.50	0.000	.6184399	1.573131
targetdum27	0	(omitted)				
origindum1	-1.542161	.4226446	-3.65	0.000	-2.370529	-.7137925
origindum2	-3.660043	.5637459	-6.49	0.000	-4.764965	-2.555121
origindum3	-1.173822	.5267293	-2.23	0.026	-2.206192	-.1414512
origindum4	-.1868758	.3633712	-0.51	0.607	-.8990702	.5253185
origindum5	-5.038175	.6684826	-7.54	0.000	-6.348376	-3.727973
origindum6	-6.510442	.6762604	-9.63	0.000	-7.835888	-5.184996
origindum7	-2.43821	.5945694	-4.10	0.000	-3.603544	-1.272875
origindum8	-10.54132	1.001823	-10.52	0.000	-12.50486	-8.577786
origindum9	-2.338816	.6337621	-3.69	0.000	-3.580967	-1.096665
origindum10	-.7367331	.2705365	-2.72	0.006	-1.266975	-.2064913
origindum11	-.7209452	.2229406	-3.23	0.001	-1.157901	-.2839895
origindum12	-5.625674	.618401	-9.10	0.000	-6.837717	-4.41363
origindum13	-1.430584	.7262455	-1.97	0.049	-2.853999	-.0071688
origindum14	-1.504213	1.032074	-1.46	0.145	-3.527042	.5186155
origindum15	-.9281012	.6507717	-1.43	0.154	-2.20359	.3473879
origindum16	-2.351173	.6514694	-3.61	0.000	-3.628029	-1.074316
origindum17	-2.697143	.3021879	-8.93	0.000	-3.28942	-2.104866
origindum18	-.9659575	.1439553	-6.71	0.000	-1.248105	-.6838103
origindum19	-2.267495	.4105852	-5.52	0.000	-3.072228	-1.462763
origindum20	-2.354084	.9758677	-2.41	0.016	-4.26675	-.4414186
origindum21	-4.729117	.9099621	-5.20	0.000	-6.51261	-2.945624
origindum22	1.633134	.8675754	1.88	0.060	-.0672821	3.333551
origindum23	-2.635095	.4118083	-6.40	0.000	-3.442225	-1.827966
origindum24	.0961223	.452163	0.21	0.832	-.7901009	.9823454
origindum25	-3.835932	.7221319	-5.31	0.000	-5.251285	-2.42058
origindum26	-1.893907	.566773	-3.34	0.001	-3.004761	-.7830519
origindum27	-3.382804	.5468181	-6.19	0.000	-4.454548	-2.31106
origindum28	-5.134251	.6411269	-8.01	0.000	-6.390836	-3.877665
origindum29	-7.890971	.7951258	-9.92	0.000	-9.449389	-6.332554
origindum30	-8.377644	.8841977	-9.47	0.000	-10.11064	-6.644648
origindum31	-1.8791	.3792998	-4.95	0.000	-2.622514	-1.135686
origindum32	-1.415409	.5273142	-2.68	0.007	-2.448926	-.3818918
origindum33	-.0451369	.5064093	-0.09	0.929	-1.037681	.9474072
origindum34	-6.559778	.4731547	-13.86	0.000	-7.487144	-5.632412
origindum35	.0510584	.2662317	0.19	0.848	-.4707461	.5728629
origindum36	0	(omitted)				
cpairdum2	-1.483018	.0162106	-91.48	0.000	-1.51479	-1.451245
cpairdum3	-1.885389	.0280766	-67.15	0.000	-1.940418	-1.830359
cpairdum4	-1.573459	.0275784	-57.05	0.000	-1.627512	-1.519406
cpairdum6	-3.449001	.027166	-126.96	0.000	-3.502246	-3.395757
cpairdum7	-2.229086	.0261901	-85.11	0.000	-2.280417	-2.177754

cpairdum9	-6.732662	.014708	-457.75	0.000	-6.761489	-6.703834
cpairdum12	-2.466227	.0297623	-82.86	0.000	-2.52456	-2.407894
cpairdum13	-1.330493	.0258907	-51.39	0.000	-1.381238	-1.279748
cpairdum14	-5.537197	.0333948	-165.81	0.000	-5.60265	-5.471745
cpairdum15	-7.588481	.0428108	-177.26	0.000	-7.672389	-7.504573
cpairdum16	-1.853184	.0253179	-73.20	0.000	-1.902806	-1.803562
cpairdum18	-5.521957	.0235351	-234.63	0.000	-5.568085	-5.475829
cpairdum19	-2.879327	.0364082	-79.08	0.000	-2.950686	-2.807968
cpairdum20	-.5759524	.0246425	-23.37	0.000	-.6242507	-.527654
cpairdum21	-1.667215	.0302969	-55.03	0.000	-1.726596	-1.607835
cpairdum23	-3.373076	.0171296	-196.92	0.000	-3.40665	-3.339503
cpairdum25	-7.650423	.0275353	-277.84	0.000	-7.704391	-7.596454
cpairdum26	-1.433456	.0269771	-53.14	0.000	-1.48633	-1.380582
cpairdum27	-2.19366	.0393857	-55.70	0.000	-2.270854	-2.116465
cpairdum28	1.840991	.0288531	63.81	0.000	1.78444	1.897542
cpairdum29	-6.687877	.0315949	-211.68	0.000	-6.749802	-6.625952
cpairdum33	-2.33818	.0269463	-86.77	0.000	-2.390994	-2.285367
cpairdum34	-4.61533	.03313	-139.31	0.000	-4.680263	-4.550396
cpairdum35	-1.302451	.0229922	-56.65	0.000	-1.347515	-1.257387
cpairdum36	-1.096418	.0073518	-149.14	0.000	-1.110827	-1.082009
cpairdum37	2.005458	.0086948	230.65	0.000	1.988416	2.022499
cpairdum38	-1.273489	.0090931	-140.05	0.000	-1.291311	-1.255667
cpairdum39	1.800356	.0083567	215.44	0.000	1.783977	1.816735
cpairdum40	3.743919	.0173516	215.77	0.000	3.709911	3.777928
cpairdum41	4.699285	.0145187	323.67	0.000	4.670829	4.727741
cpairdum42	3.051918	.0078021	391.17	0.000	3.036627	3.06721
cpairdum43	3.155866	.0076994	409.89	0.000	3.140775	3.170956
cpairdum44	2.393717	.0132188	181.08	0.000	2.367808	2.419625
cpairdum45	6.295947	.0278905	225.74	0.000	6.241283	6.350612
cpairdum46	2.412474	.0094119	256.32	0.000	2.394027	2.430921
cpairdum47	.6413672	.007177	89.36	0.000	.6273005	.6554339
cpairdum48	1.711826	.0088499	193.43	0.000	1.694481	1.729172
cpairdum49	2.923658	.0177454	164.76	0.000	2.888878	2.958438
cpairdum50	1.733579	.0151234	114.63	0.000	1.703937	1.76322
cpairdum51	1.920267	.0158272	121.33	0.000	1.889247	1.951288
cpairdum52	-1.55626	.0257492	-60.44	0.000	-1.606727	-1.505792
cpairdum53	-3.165828	.0094372	-335.46	0.000	-3.184325	-3.147332
cpairdum54	5.216719	.0075608	689.97	0.000	5.2019	5.231538
cpairdum55	-1.287788	.0095415	-134.97	0.000	-1.306489	-1.269087
cpairdum56	-1.622844	.008126	-199.71	0.000	-1.63877	-1.606917
cpairdum57	1.374313	.0096886	141.85	0.000	1.355323	1.393302
cpairdum58	-2.56927	.0096889	-265.18	0.000	-2.58826	-2.55028
cpairdum59	2.003877	.0094168	212.80	0.000	1.98542	2.022333
cpairdum60	.3505673	.0120956	28.98	0.000	.3268602	.3742743
cpairdum61	-.2932658	.007241	-40.50	0.000	-.3074579	-.2790737
cpairdum62	2.059473	.0131974	156.05	0.000	2.033606	2.085339
cpairdum63	3.19444	.0125327	254.89	0.000	3.169877	3.219004
cpairdum64	7.359005	.0140815	522.60	0.000	7.331405	7.386604
cpairdum65	6.98658	.0172922	404.03	0.000	6.952688	7.020472
cpairdum66	1.350504	.0069842	193.37	0.000	1.336815	1.364192
cpairdum67	5.43837	.0162364	334.95	0.000	5.406547	5.470193
cpairdum68	0	(omitted)				
cpairdum69	.7323103	.012197	60.04	0.000	.7084045	.7562161
cpairdum70	3.003516	.0099803	300.95	0.000	2.983955	3.023077
cpairdum71	-1.260607	.0129698	-97.20	0.000	-1.286027	-1.235186
cpairdum72	1.081008	.0075461	143.25	0.000	1.066218	1.095798
cpairdum73	3.316075	.0131155	252.84	0.000	3.290369	3.341781
cpairdum74	6.25984	.0180491	346.82	0.000	6.224464	6.295215
cpairdum75	1.716961	.0074056	231.85	0.000	1.702446	1.731476
cpairdum76	1.943871	.0100755	192.93	0.000	1.924123	1.963618
cpairdum77	1.995697	.0188949	105.62	0.000	1.958664	2.03273
cpairdum78	6.85787	.021058	325.67	0.000	6.816597	6.899143
cpairdum79	3.897088	.0123469	315.63	0.000	3.872889	3.921288

cpairdum80	2.960774	.0091919	322.11	0.000	2.942758	2.97879
cpairdum81	.5754309	.0098846	58.21	0.000	.5560574	.5948044
cpairdum82	2.705787	.0225785	119.84	0.000	2.661534	2.75004
cpairdum83	2.02528	.0147896	136.94	0.000	1.996293	2.054267
cpairdum84	1.951379	.0216892	89.97	0.000	1.908869	1.993889
cpairdum85	-4.588734	.0238566	-192.35	0.000	-4.635492	-4.541976
cpairdum86	-.064934	.0088107	-7.37	0.000	-.0822025	-.0476654
cpairdum87	2.773937	.0096843	286.44	0.000	2.754957	2.792918
cpairdum88	.1371831	.0120523	11.38	0.000	.113561	.1608052
cpairdum89	.3809632	.0099442	38.31	0.000	.3614729	.4004535
cpairdum90	3.106167	.0147701	210.30	0.000	3.077218	3.135116
cpairdum91	.3734137	.0103208	36.18	0.000	.3531854	.393642
cpairdum92	2.857996	.0127608	223.97	0.000	2.832985	2.883006
cpairdum93	3.720292	.018171	204.74	0.000	3.684678	3.755907
cpairdum94	1.382121	.0106724	129.50	0.000	1.361204	1.403039
cpairdum95	2.379794	.0145795	163.23	0.000	2.351218	2.408369
cpairdum96	4.047015	.0141668	285.67	0.000	4.019249	4.074782
cpairdum97	6.897356	.0170517	404.50	0.000	6.863935	6.930777
cpairdum98	2.84548	.017692	160.83	0.000	2.810804	2.880155
cpairdum99	2.484105	.0079838	311.14	0.000	2.468457	2.499753
cpairdum100	4.087301	.0145752	280.43	0.000	4.058734	4.115868
cpairdum101	0	(omitted)				
cpairdum114	-.5173507	.0136972	-37.77	0.000	-.5441968	-.4905047
cpairdum121	-1.734335	.0173673	-99.86	0.000	-1.768374	-1.700295
cpairdum134	0	(omitted)				
cpairdum136	4.751798	.0094234	504.25	0.000	4.733329	4.770268
cpairdum137	.5319263	.0077814	68.36	0.000	.5166749	.5471776
cpairdum138	-.7696613	.0072254	-106.52	0.000	-.7838228	-.7554998
cpairdum141	-.1801058	.0083212	-21.64	0.000	-.196415	-.1637966
cpairdum142	1.421503	.0089329	159.13	0.000	1.403994	1.439011
cpairdum143	-.3040511	.0112417	-27.05	0.000	-.3260844	-.2820179
cpairdum146	.58458	.0090136	64.85	0.000	.5669136	.6022464
cpairdum147	-.7843446	.007862	-99.76	0.000	-.7997538	-.7689353
cpairdum152	.7092508	.005943	119.34	0.000	.6976027	.7208989
cpairdum153	.9311954	.0094015	99.05	0.000	.9127687	.949622
cpairdum154	-1.668753	.0107941	-154.60	0.000	-1.689909	-1.647597
cpairdum156	.7471039	.0063885	116.94	0.000	.7345825	.7596252
cpairdum158	1.58309	.0099407	159.25	0.000	1.563607	1.602574
cpairdum165	.444737	.0056314	78.97	0.000	.4336996	.4557744
cpairdum166	2.987076	.1295714	23.05	0.000	2.733121	3.241032
cpairdum167	0	(omitted)				
cpairdum168	-2.375629	.0097409	-243.88	0.000	-2.394721	-2.356538
cpairdum169	6.380444	.0083611	763.11	0.000	6.364057	6.396832
cpairdum170	2.584917	.0051927	497.79	0.000	2.574739	2.595095
cpairdum171	-1.096169	.0073603	-148.93	0.000	-1.110595	-1.081744
cpairdum172	1.70934	.0066248	258.02	0.000	1.696356	1.722325
cpairdum174	2.61357	.0066282	394.31	0.000	2.600579	2.626561
cpairdum175	2.558653	.0077783	328.95	0.000	2.543407	2.573898
cpairdum176	3.307503	.015707	210.58	0.000	3.276718	3.338288
cpairdum177	7.32427	.0225232	325.19	0.000	7.280125	7.368414
cpairdum178	1.41242	.0106141	133.07	0.000	1.391616	1.433223
cpairdum179	1.702501	.0075652	225.04	0.000	1.687674	1.717329
cpairdum180	.7516697	.0071149	105.65	0.000	.7377248	.7656146
cpairdum181	3.288593	.0143485	229.19	0.000	3.26047	3.316715
cpairdum182	1.348388	.0018321	735.96	0.000	1.344797	1.351979
cpairdum183	1.363043	.0157155	86.73	0.000	1.332241	1.393845
cpairdum184	.2022658	.0245601	8.24	0.000	.1541289	.2504027
cpairdum185	-.9326427	.009775	-95.41	0.000	-.9518013	-.9134842
cpairdum186	1.90669	.0077473	246.11	0.000	1.891506	1.921874
cpairdum187	-.0466959	.0094975	-4.92	0.000	-.0653108	-.0280811
cpairdum188	2.611002	.0057357	455.22	0.000	2.59976	2.622243
cpairdum190	1.24483	.0060405	206.08	0.000	1.232991	1.256669
cpairdum192	1.130254	.0059989	188.41	0.000	1.118497	1.142012

cpairdum193	2.540617	.0089621	283.49	0.000	2.523051	2.558182
cpairdum194	.4545105	.0141933	32.02	0.000	.426692	.4823289
cpairdum195	.996966	.0074115	134.52	0.000	.9824396	1.011492
cpairdum196	4.279452	.0041824	1023.21	0.000	4.271254	4.287649
cpairdum197	2.484671	.0028588	869.14	0.000	2.479068	2.490274
cpairdum198	9.921938	.0050437	1967.21	0.000	9.912053	9.931824
cpairdum199	8.118743	.0130321	622.98	0.000	8.093201	8.144286
cpairdum200	1.931875	.0055277	349.49	0.000	1.921041	1.942709
cpairdum201	2.659324	.0054472	488.20	0.000	2.648648	2.67
cpairdum202	0	(omitted)				
cpairdum203	-.2980836	.0079576	-37.46	0.000	-.3136801	-.282487
cpairdum204	4.382197	.0088844	493.25	0.000	4.364784	4.39961
cpairdum205	2.61154	.0146935	177.73	0.000	2.582742	2.640339
cpairdum206	-1.900163	.0080103	-237.22	0.000	-1.915863	-1.884463
cpairdum207	1.289784	.0079698	161.83	0.000	1.274164	1.305405
cpairdum208	2.350385	.015679	149.91	0.000	2.319654	2.381115
cpairdum209	5.117072	.0206314	248.02	0.000	5.076635	5.157509
cpairdum210	2.529066	.0079704	317.31	0.000	2.513445	2.544688
cpairdum211	1.559838	.0079658	195.82	0.000	1.544226	1.575451
cpairdum212	5.85063	.0274976	212.77	0.000	5.796736	5.904525
cpairdum213	2.188777	.0089203	245.37	0.000	2.171294	2.206261
cpairdum214	1.536754	.0079833	192.50	0.000	1.521107	1.552401
cpairdum215	1.06508	.008547	124.61	0.000	1.048328	1.081831
cpairdum216	2.687625	.0124951	215.09	0.000	2.663135	2.712115
cpairdum217	1.273021	.0193631	65.74	0.000	1.23507	1.310972
cpairdum218	1.913686	.0088984	215.06	0.000	1.896245	1.931126
cpairdum219	-.6955485	.0284173	-24.48	0.000	-.7512453	-.6398517
cpairdum220	.414039	.0071489	57.92	0.000	.4000274	.4280507
cpairdum221	3.211621	.0080284	400.03	0.000	3.195886	3.227356
cpairdum222	-.0455132	.0081444	-5.59	0.000	-.061476	-.0295505
cpairdum223	1.134647	.0082372	137.75	0.000	1.118502	1.150791
cpairdum224	2.100287	.0389299	53.95	0.000	2.023986	2.176588
cpairdum225	2.075974	.018986	109.34	0.000	2.038762	2.113186
cpairdum227	-.5979975	.0087235	-68.55	0.000	-.6150952	-.5808999
cpairdum228	1.862397	.007973	233.59	0.000	1.84677	1.878024
cpairdum229	.6423158	.0079404	80.89	0.000	.6267529	.6578786
cpairdum230	1.194098	.0080316	148.68	0.000	1.178356	1.209839
cpairdum231	1.791963	.0157067	114.09	0.000	1.761178	1.822747
cpairdum232	3.182178	.013924	228.54	0.000	3.154887	3.209468
cpairdum233	6.783491	.0196543	345.14	0.000	6.74497	6.822013
cpairdum234	5.192448	.0165915	312.96	0.000	5.15993	5.224967
cpairdum235	1.32624	.0079994	165.79	0.000	1.310562	1.341919
cpairdum236	4.000855	.0206375	193.86	0.000	3.960406	4.041303
cpairdum237	0	(omitted)				
cpairdum238	-.5169959	.0118622	-43.58	0.000	-.5402454	-.4937463
cpairdum239	3.325743	.009644	344.85	0.000	3.306841	3.344645
cpairdum240	2.374011	.006845	346.82	0.000	2.360595	2.387427
cpairdum241	-.8045832	.0077722	-103.52	0.000	-.8198164	-.78935
cpairdum242	.5645934	.0082416	68.51	0.000	.5484401	.5807466
cpairdum243	1.361836	.0137187	99.27	0.000	1.334948	1.388724
cpairdum244	4.044664	.0168742	239.70	0.000	4.011592	4.077737
cpairdum245	.8398921	.009787	85.82	0.000	.8207099	.8590744
cpairdum246	.9402332	.0100089	93.94	0.000	.9206161	.9598503
cpairdum247	8.677706	.0167155	519.14	0.000	8.644945	8.710468
cpairdum248	2.250781	.0101024	222.80	0.000	2.23098	2.270581
cpairdum249	1.095715	.0096305	113.78	0.000	1.07684	1.114591
cpairdum250	.4409591	.0085186	51.76	0.000	.4242629	.4576552
cpairdum251	1.368866	.0152182	89.95	0.000	1.339039	1.398693
cpairdum252	.0596115	.0153758	3.88	0.000	.0294755	.0897476
cpairdum253	1.549402	.0076929	201.41	0.000	1.534325	1.56448
cpairdum254	3.229655	.0253566	127.37	0.000	3.179957	3.279353
cpairdum255	-2.948303	.0093538	-315.20	0.000	-2.966636	-2.92997
cpairdum256	1.139257	.0113036	100.79	0.000	1.117102	1.161411

cpairdum257	.3282276	.0141033	23.27	0.000	.3005857	.3558695
cpairdum258	-1.84583	.0062637	-294.69	0.000	-1.858107	-1.833554
cpairdum259	1.45557	.0054764	265.79	0.000	1.444836	1.466303
cpairdum260	-.4771236	.0081023	-58.89	0.000	-.4930039	-.4612434
cpairdum261	1.49936	.0089612	167.32	0.000	1.481796	1.516924
cpairdum262	3.229837	.0074256	434.96	0.000	3.215283	3.244391
cpairdum263	2.688698	.0106851	251.63	0.000	2.667756	2.709641
cpairdum264	1.40947	.0144472	97.56	0.000	1.381154	1.437786
cpairdum265	1.35554	.0124074	109.25	0.000	1.331222	1.379858
cpairdum266	4.908003	.0158287	310.07	0.000	4.87698	4.939027
cpairdum267	5.767653	.0094435	610.76	0.000	5.749144	5.786162
cpairdum268	3.620582	.0081311	445.28	0.000	3.604646	3.636519
cpairdum269	3.063107	.0258852	118.33	0.000	3.012373	3.113841
cpairdum270	0	(omitted)				
cpairdum271	-1.811041	.0248514	-72.87	0.000	-1.859749	-1.762333
cpairdum272	2.050459	.0116526	175.97	0.000	2.02762	2.073297
cpairdum273	1.921662	.0025462	754.70	0.000	1.916672	1.926653
cpairdum274	-1.151057	.013762	-83.64	0.000	-1.17803	-1.124084
cpairdum275	.4312764	.0073472	58.70	0.000	.4168761	.4456767
cpairdum276	4.255049	.0691141	61.57	0.000	4.119588	4.39051
cpairdum277	4.309332	.0341612	126.15	0.000	4.242377	4.376286
cpairdum278	1.082083	.0096237	112.44	0.000	1.063221	1.100945
cpairdum279	1.001367	.0106133	94.35	0.000	.9805653	1.022169
cpairdum281	.5403394	.028512	18.95	0.000	.4844568	.5962219
cpairdum282	1.150578	.0099114	116.09	0.000	1.131152	1.170004
cpairdum283	1.183103	.0086476	136.81	0.000	1.166154	1.200052
cpairdum284	2.316814	.0342011	67.74	0.000	2.249781	2.383847
cpairdum285	-.1605531	.0347444	-4.62	0.000	-.228651	-.0924553
cpairdum286	1.069076	.0069447	153.94	0.000	1.055465	1.082687
cpairdum287	-1.143158	.057781	-19.78	0.000	-1.256407	-1.029909
cpairdum288	-.1648917	.0290898	-5.67	0.000	-.2219066	-.1078768
cpairdum289	3.160582	.0115097	274.60	0.000	3.138024	3.183141
cpairdum290	-1.379523	.0197031	-70.02	0.000	-1.41814	-1.340905
cpairdum291	-1.620783	.0486938	-33.29	0.000	-1.716221	-1.525345
cpairdum292	1.538499	.0031827	483.39	0.000	1.532261	1.544737
cpairdum293	1.529274	.0140187	109.09	0.000	1.501797	1.55675
cpairdum294	1.927995	.0094731	203.52	0.000	1.909429	1.946562
cpairdum295	1.174746	.0069582	168.83	0.000	1.161108	1.188384
cpairdum296	-1.024897	.0321021	-31.93	0.000	-1.087816	-.9619777
cpairdum297	1.146115	.0261386	43.85	0.000	1.094884	1.197346
cpairdum298	5.98967	.0121976	491.05	0.000	5.965763	6.013577
cpairdum299	5.244966	.057679	90.93	0.000	5.131917	5.358015
cpairdum300	3.495562	.0553281	63.18	0.000	3.387121	3.604003
cpairdum301	1.099485	.0101547	108.27	0.000	1.079582	1.119388
cpairdum302	.9648364	.0960619	10.04	0.000	.7765586	1.153114
cpairdum303	0	(omitted)				
cpairdum304	.5980158	.0423302	14.13	0.000	.5150501	.6809816
cpairdum305	4.234397	.0356576	118.75	0.000	4.16451	4.304285
cpairdum306	3.437658	.0375804	91.47	0.000	3.364002	3.511314
cpairdum307	.1238516	.0315911	3.92	0.000	.0619341	.185769
cpairdum308	1.225435	.0285672	42.90	0.000	1.169444	1.281426
cpairdum309	2.091368	.0431652	48.45	0.000	2.006766	2.17597
cpairdum310	4.449774	.029255	152.10	0.000	4.392436	4.507113
cpairdum311	2.678546	.0333209	80.39	0.000	2.613238	2.743854
cpairdum312	5.694525	.0324459	175.51	0.000	5.630933	5.758118
cpairdum313	1.869202	.050043	37.35	0.000	1.77112	1.967285
cpairdum314	11.6904	.0253818	460.58	0.000	11.64065	11.74014
cpairdum315	1.074456	.0333795	32.19	0.000	1.009033	1.139878
cpairdum316	1.61567	.0307024	52.62	0.000	1.555495	1.675846
cpairdum317	3.937597	.0552847	71.22	0.000	3.829241	4.045953
cpairdum318	1.274505	.0335642	37.97	0.000	1.20872	1.34029
cpairdum319	2.593695	.0339672	76.36	0.000	2.52712	2.660269
cpairdum320	4.436119	.0322193	137.69	0.000	4.37297	4.499267

cpairdum322	2.674729	.0353578	75.65	0.000	2.605429	2.744029
cpairdum323	.3067635	.0387558	7.92	0.000	.2308035	.3827235
cpairdum324	.470964	.0434946	10.83	0.000	.3857162	.5562118
cpairdum325	2.261829	.0357331	63.30	0.000	2.191794	2.331865
cpairdum326	-1.143959	.0418446	-27.34	0.000	-1.225973	-1.061945
cpairdum327	3.093415	.0324454	95.34	0.000	3.029823	3.157007
cpairdum328	3.695038	.0289819	127.49	0.000	3.638235	3.751842
cpairdum330	3.979679	.0354839	112.15	0.000	3.910132	4.049226
cpairdum331	3.249454	.0389024	83.53	0.000	3.173207	3.325702
cpairdum332	5.992469	.0401628	149.20	0.000	5.913752	6.071187
cpairdum333	5.706276	.0422159	135.17	0.000	5.623534	5.789018
cpairdum334	6.071986	.0313115	193.92	0.000	6.010617	6.133355
cpairdum335	5.115326	.0370148	138.20	0.000	5.042778	5.187874
cpairdum336	.4651453	.0360204	12.91	0.000	.3945467	.5357439
cpairdum337	-.5843475	.0094736	-61.68	0.000	-.6029155	-.5657796
cpairdum338	2.317537	.0089108	260.08	0.000	2.300072	2.335001
cpairdum339	3.207032	.0152776	209.92	0.000	3.177088	3.236975
cpairdum340	-.361787	.0086402	-41.87	0.000	-.3787216	-.3448525
cpairdum341	1.304522	.0081186	160.68	0.000	1.28861	1.320434
cpairdum342	2.372911	.0266596	89.01	0.000	2.320659	2.425163
cpairdum343	4.913084	.0243016	202.17	0.000	4.865454	4.960714
cpairdum344	1.388211	.0080995	171.39	0.000	1.372337	1.404086
cpairdum345	1.6929	.0105712	160.14	0.000	1.672181	1.71362
cpairdum346	2.184024	.0085397	255.75	0.000	2.167287	2.200762
cpairdum347	7.995917	.0353953	225.90	0.000	7.926544	8.065291
cpairdum348	.9619126	.0090101	106.76	0.000	.9442531	.9795721
cpairdum349	1.268913	.0084408	150.33	0.000	1.252369	1.285457
cpairdum350	2.159214	.0148595	145.31	0.000	2.13009	2.188338
cpairdum351	-.2287608	.0213251	-10.73	0.000	-.2705572	-.1869645
cpairdum352	1.68696	.0105897	159.30	0.000	1.666205	1.707716
cpairdum353	-.6171684	.0300619	-20.53	0.000	-.6760887	-.5582481
cpairdum354	-.7232662	.0099398	-72.76	0.000	-.7427479	-.7037845
cpairdum355	2.373511	.0080111	296.28	0.000	2.357809	2.389212
cpairdum356	-.3629195	.0087958	-41.26	0.000	-.380159	-.3456799
cpairdum357	-.7891541	.0092644	-85.18	0.000	-.807312	-.7709961
cpairdum359	1.64381	.0159424	103.11	0.000	1.612564	1.675057
cpairdum361	.19142	.0094233	20.31	0.000	.1729507	.2098892
cpairdum362	1.635582	.0080574	202.99	0.000	1.61979	1.651374
cpairdum363	.9029947	.0089631	100.75	0.000	.8854272	.9205621
cpairdum364	.5362748	.0093021	57.65	0.000	.518043	.5545065
cpairdum365	2.002752	.0210073	95.34	0.000	1.961579	2.043926
cpairdum366	3.71119	.0138267	268.41	0.000	3.68409	3.73829
cpairdum367	5.209961	.0240819	216.34	0.000	5.162762	5.257161
cpairdum368	5.272458	.0160454	328.60	0.000	5.24101	5.303906
cpairdum369	1.28491	.0080253	160.11	0.000	1.269181	1.30064
cpairdum370	3.600393	.0298219	120.73	0.000	3.541944	3.658843
cpairdum371	0	(omitted)				
cpairdum372	.4517205	.0163281	27.67	0.000	.4197179	.4837231
cpairdum373	.6773041	.0094303	71.82	0.000	.6588209	.6957872
cpairdum374	.7554065	.0088473	85.38	0.000	.738066	.772747
cpairdum375	-.9847591	.0193129	-50.99	0.000	-1.022612	-.9469066
cpairdum376	.0133866	.0091277	1.47	0.142	-.0045033	.0312765
cpairdum377	-2.888923	.0327575	-88.19	0.000	-2.953127	-2.824719
cpairdum378	-.0812968	.0217667	-3.73	0.000	-.1239587	-.0386349
cpairdum379	.6202464	.0080836	76.73	0.000	.6044028	.63609
cpairdum380	.5962613	.0167763	35.54	0.000	.5633804	.6291422
cpairdum381	1.791549	.009157	195.65	0.000	1.773602	1.809497
cpairdum383	-.6381657	.0147258	-43.34	0.000	-.6670277	-.6093037
cpairdum384	.542333	.0085466	63.46	0.000	.525582	.559084
cpairdum385	1.375507	.0099084	138.82	0.000	1.356087	1.394927
cpairdum386	-5.434409	.018393	-295.46	0.000	-5.470458	-5.398359
cpairdum387	-.2089855	.0083622	-24.99	0.000	-.2253751	-.1925958
cpairdum388	.4846463	.0230086	21.06	0.000	.4395503	.5297423

cpairdum389	-.9225999	.0208157	-44.32	0.000	-.9633979	-.8818019
cpairdum390	.0707945	.0079364	8.92	0.000	.0552395	.0863495
cpairdum391	-.7024407	.0083834	-83.79	0.000	-.7188718	-.6860095
cpairdum392	-1.494128	.0152951	-97.69	0.000	-1.524106	-1.46415
cpairdum394	-1.502006	.011717	-128.19	0.000	-1.524971	-1.479042
cpairdum396	-6.882047	.0106463	-646.43	0.000	-6.902914	-6.861181
cpairdum397	.7710458	.008097	95.23	0.000	.755176	.7869157
cpairdum398	-.1289902	.0083345	-15.48	0.000	-.1453255	-.1126549
cpairdum399	.3716259	.0097423	38.15	0.000	.3525314	.3907203
cpairdum400	-2.307273	.0157176	-146.80	0.000	-2.338079	-2.276467
cpairdum401	.9714929	.0143106	67.89	0.000	.9434446	.9995412
cpairdum402	2.408256	.0847515	28.42	0.000	2.242147	2.574366
cpairdum404	-.1602655	.012824	-12.50	0.000	-.1854	-.1351309
cpairdum405	1.168723	.0341174	34.26	0.000	1.101854	1.235592
cpairdum406	0	(omitted)				
cpairdum407	-2.055797	.0080107	-256.63	0.000	-2.071498	-2.040096
cpairdum408	4.14442	.008477	488.90	0.000	4.127805	4.161035
cpairdum409	1.40635	.0069036	203.71	0.000	1.392819	1.419881
cpairdum410	-2.946319	.011389	-258.70	0.000	-2.968641	-2.923997
cpairdum411	1.241929	.0080662	153.97	0.000	1.226119	1.257738
cpairdum413	4.464021	.0136961	325.93	0.000	4.437177	4.490865
cpairdum414	2.88468	.0074733	386.00	0.000	2.870033	2.899327
cpairdum415	2.105994	.0100226	210.12	0.000	2.08635	2.125638
cpairdum416	2.617118	.018514	141.36	0.000	2.580831	2.653404
cpairdum417	8.528103	.0193146	441.54	0.000	8.490247	8.565959
cpairdum418	.6245504	.0133329	46.84	0.000	.5984184	.6506824
cpairdum419	3.230581	.0099326	325.25	0.000	3.211114	3.250049
cpairdum420	1.665669	.0096539	172.54	0.000	1.646748	1.68459
cpairdum421	-.7571131	.0112541	-67.27	0.000	-.7791707	-.7350554
cpairdum422	1.31717	.0172715	76.26	0.000	1.283318	1.351021
cpairdum423	-1.725615	.0190861	-90.41	0.000	-1.763023	-1.688207
cpairdum424	-.1579736	.0046501	-33.97	0.000	-.1670876	-.1488595
cpairdum425	3.889771	.0121177	321.00	0.000	3.866021	3.913522
cpairdum426	-2.14198	.009304	-230.22	0.000	-2.160216	-2.123744
cpairdum427	-1.215638	.0065828	-184.67	0.000	-1.22854	-1.202736
cpairdum428	1.711743	.0074656	229.28	0.000	1.697111	1.726376
cpairdum429	-3.752044	.0084924	-441.81	0.000	-3.768688	-3.735399
cpairdum430	1.725624	.011919	144.78	0.000	1.702263	1.748985
cpairdum431	1.347341	.015424	87.35	0.000	1.317111	1.377572
cpairdum432	.0463076	.0065079	7.12	0.000	.0335524	.0590629
cpairdum433	-.5678787	.0107228	-52.96	0.000	-.588895	-.5468624
cpairdum434	7.001094	.0134269	521.42	0.000	6.974778	7.02741
cpairdum435	2.562346	.0112523	227.72	0.000	2.540292	2.5844
cpairdum436	7.085758	.0162163	436.95	0.000	7.053975	7.117541
cpairdum437	.2484453	.0074107	33.53	0.000	.2339205	.2629701
cpairdum438	2.420978	.0094408	256.44	0.000	2.402474	2.439481
cpairdum439	0	(omitted)				
cpairdum440	-1.870753	.0088186	-212.14	0.000	-1.888037	-1.853469
cpairdum441	6.780152	.008706	778.79	0.000	6.763088	6.797215
cpairdum442	3.092804	.0099019	312.34	0.000	3.073397	3.112211
cpairdum443	-.4052334	.0106176	-38.17	0.000	-.4260434	-.3844233
cpairdum444	1.826195	.0075735	241.13	0.000	1.811351	1.841039
cpairdum445	-.370538	.0157943	-23.46	0.000	-.4014942	-.3395818
cpairdum446	6.344785	.0158553	400.17	0.000	6.313709	6.375861
cpairdum447	3.231344	.0071212	453.76	0.000	3.217386	3.245301
cpairdum448	2.369764	.0087627	270.44	0.000	2.35259	2.386939
cpairdum449	2.399156	.0163954	146.33	0.000	2.367021	2.43129
cpairdum450	9.395302	.0243286	386.18	0.000	9.347619	9.442985
cpairdum451	3.780766	.0108574	348.22	0.000	3.759486	3.802046
cpairdum452	1.817962	.0079919	227.48	0.000	1.802298	1.833626
cpairdum453	1.483773	.0092996	159.55	0.000	1.465546	1.502
cpairdum454	2.447959	.0205776	118.96	0.000	2.407628	2.48829
cpairdum455	2.068811	.0189294	109.29	0.000	2.03171	2.105912

cpairdum456	-1.332424	.0232384	-57.34	0.000	-1.37797	-1.286877
cpairdum457	1.794147	.0090675	197.87	0.000	1.776376	1.811919
cpairdum458	4.569639	.0085765	532.81	0.000	4.552829	4.586448
cpairdum459	.343241	.0111636	30.75	0.000	.3213606	.3651213
cpairdum460	2.288119	.008434	271.30	0.000	2.271589	2.30465
cpairdum461	2.2927	.0108729	210.86	0.000	2.271389	2.31401
cpairdum462	-1.451014	.0098545	-147.24	0.000	-1.470329	-1.4317
cpairdum463	2.028958	.011165	181.73	0.000	2.007075	2.050841
cpairdum464	1.992584	.0148701	134.00	0.000	1.963439	2.021729
cpairdum465	.417148	.0082294	50.69	0.000	.4010187	.4332774
cpairdum466	2.453619	.0131314	186.85	0.000	2.427882	2.479356
cpairdum467	5.098469	.0131076	388.97	0.000	5.072778	5.124159
cpairdum468	7.320725	.014471	505.89	0.000	7.292362	7.349088
cpairdum469	6.637939	.017285	384.03	0.000	6.604061	6.671817
cpairdum470	2.032384	.0070114	289.87	0.000	2.018642	2.046127
cpairdum471	4.662009	.0143449	324.99	0.000	4.633894	4.690125
cpairdum472	0	(omitted)				
cpairdum473	-.3469166	.0063263	-54.84	0.000	-.359316	-.3345172
cpairdum474	1.817514	.010052	180.81	0.000	1.797813	1.837216
cpairdum475	1.182798	.0129747	91.16	0.000	1.157368	1.208227
cpairdum476	-.4469142	.0089751	-49.79	0.000	-.4645051	-.4293233
cpairdum477	.8333194	.0075528	110.33	0.000	.8185162	.8481226
cpairdum478	1.431993	.0103031	138.99	0.000	1.4118	1.452187
cpairdum479	4.692265	.0069342	676.69	0.000	4.678674	4.705856
cpairdum480	.1706488	.0090611	18.83	0.000	.1528893	.1884083
cpairdum481	1.939125	.0095309	203.46	0.000	1.920445	1.957806
cpairdum482	1.851186	.0153063	120.94	0.000	1.821186	1.881185
cpairdum483	7.173994	.0201974	355.19	0.000	7.134408	7.21358
cpairdum484	.6013626	.0134037	44.87	0.000	.5750919	.6276334
cpairdum485	1.054281	.0100799	104.59	0.000	1.034525	1.074038
cpairdum486	.8821149	.0089395	98.68	0.000	.8645939	.899636
cpairdum487	2.450218	.0209721	116.83	0.000	2.409113	2.491322
cpairdum488	-.5918268	.0136446	-43.37	0.000	-.6185697	-.5650839
cpairdum490	-.7477849	.0032494	-230.13	0.000	-.7541536	-.7414162
cpairdum491	2.362281	.0112323	210.31	0.000	2.340266	2.384296
cpairdum492	-.0005732	.0101623	-0.06	0.955	-.0204909	.0193445
cpairdum493	1.484935	.0075179	197.52	0.000	1.4702	1.49967
cpairdum494	.9220143	.0177287	52.01	0.000	.8872667	.956762
cpairdum495	1.533693	.0076606	200.20	0.000	1.518679	1.548708
cpairdum496	1.723933	.010896	158.22	0.000	1.702578	1.745289
cpairdum497	.861531	.0084693	101.72	0.000	.8449315	.8781305
cpairdum498	1.656973	.006656	248.94	0.000	1.643928	1.670019
cpairdum499	.5004762	.0047125	106.20	0.000	.4912399	.5097125
cpairdum500	4.460609	.0117831	378.56	0.000	4.437514	4.483703
cpairdum501	4.932938	.0041567	1186.75	0.000	4.924791	4.941085
cpairdum502	4.928754	.0194728	253.11	0.000	4.890588	4.966921
cpairdum503	1.923437	.0079176	242.93	0.000	1.907919	1.938955
cpairdum504	2.893738	.0184622	156.74	0.000	2.857553	2.929924
cpairdum505	0	(omitted)				
cpairdum506	-.5069046	.0090026	-56.31	0.000	-.5245493	-.4892599
cpairdum507	4.210976	.0096871	434.70	0.000	4.19199	4.229962
cpairdum508	2.992312	.008849	338.15	0.000	2.974968	3.009656
cpairdum509	-2.072655	.0086941	-238.40	0.000	-2.089696	-2.055615
cpairdum510	1.773817	.0087113	203.62	0.000	1.756744	1.790891
cpairdum511	3.117254	.0137974	225.93	0.000	3.090212	3.144297
cpairdum512	5.057101	.0196334	257.58	0.000	5.01862	5.095582
cpairdum513	1.377085	.0083753	164.42	0.000	1.36067	1.3935
cpairdum514	2.4027	.0083578	287.48	0.000	2.386319	2.419081
cpairdum515	2.862219	.0082726	345.99	0.000	2.846005	2.878433
cpairdum516	8.857865	.0124352	712.32	0.000	8.833493	8.882238
cpairdum517	1.39653	.009501	146.99	0.000	1.377908	1.415152
cpairdum518	2.822959	.0083309	338.85	0.000	2.806631	2.839287
cpairdum519	1.362457	.0086829	156.91	0.000	1.345438	1.379475

cpairdum520	2.52523	.0123009	205.29	0.000	2.50112	2.549339
cpairdum521	1.616305	.0170225	94.95	0.000	1.582941	1.649668
cpairdum522	1.977782	.0090249	219.15	0.000	1.960093	1.99547
cpairdum523	-1.002172	.021186	-47.30	0.000	-1.043696	-.9606486
cpairdum524	-.4731839	.0092694	-51.05	0.000	-.4913516	-.4550162
cpairdum525	-.0143708	.0083673	-1.72	0.086	-.0307704	.0020289
cpairdum526	1.139021	.010629	107.16	0.000	1.118189	1.159854
cpairdum527	.8467527	.0609774	13.89	0.000	.7272392	.9662662
cpairdum528	1.896179	.0112257	168.91	0.000	1.874177	1.918181
cpairdum529	-.9031063	.0609757	-14.81	0.000	-1.022616	-.7835962
cpairdum530	.0559455	.0097462	5.74	0.000	.0368434	.0750477
cpairdum531	2.555643	.0083432	306.31	0.000	2.53929	2.571995
cpairdum532	.8694852	.009685	89.78	0.000	.850503	.8884674
cpairdum533	-.0277745	.0132401	-2.10	0.036	-.0537246	-.0018243
cpairdum534	1.328457	.0136201	97.54	0.000	1.301762	1.355152
cpairdum535	4.595111	.014005	328.11	0.000	4.567662	4.62256
cpairdum536	7.968056	.0156158	510.26	0.000	7.937449	7.998662
cpairdum537	8.288605	.0180567	459.03	0.000	8.253215	8.323996
cpairdum538	1.254972	.008171	153.59	0.000	1.238958	1.270987
cpairdum539	4.725932	.0212348	222.56	0.000	4.684313	4.767552
cpairdum540	0	(omitted)				
cpairdum541	-1.213512	.0113618	-106.81	0.000	-1.235781	-1.191244
cpairdum542	-.3319405	.0092628	-35.84	0.000	-.3500952	-.3137857
cpairdum543	-.9306967	.0338106	-27.53	0.000	-.9969642	-.8644292
cpairdum544	-1.523846	.00979	-155.65	0.000	-1.543034	-1.504658
cpairdum545	-.292184	.0082795	-35.29	0.000	-.3084115	-.2759565
cpairdum546	-2.723145	.0219644	-123.98	0.000	-2.766194	-2.680095
cpairdum548	-.7113628	.0085971	-82.74	0.000	-.7282128	-.6945127
cpairdum549	-1.412515	.0076657	-184.27	0.000	-1.42754	-1.397491
cpairdum550	-1.890215	.0106441	-177.58	0.000	-1.911077	-1.869353
cpairdum552	-2.425436	.0083251	-291.34	0.000	-2.441753	-2.409119
cpairdum553	-.1583866	.0080853	-19.59	0.000	-.1742336	-.1425397
cpairdum554	-.6769788	.0087047	-77.77	0.000	-.6940397	-.6599178
cpairdum555	.11766	.0110903	10.61	0.000	.0959235	.1393965
cpairdum556	-4.240527	.0171515	-247.24	0.000	-4.274143	-4.20691
cpairdum557	.061593	.0104381	5.90	0.000	.0411346	.0820514
cpairdum558	-4.333562	.0354779	-122.15	0.000	-4.403097	-4.264026
cpairdum559	-.8037889	.0111148	-72.32	0.000	-.8255735	-.7820043
cpairdum560	-1.185118	.0081087	-146.15	0.000	-1.20101	-1.169225
cpairdum561	.4489205	.0093604	47.96	0.000	.4305745	.4672666
cpairdum563	-1.89226	.0368763	-51.31	0.000	-1.964536	-1.819984
cpairdum566	.2825682	.0080731	35.00	0.000	.2667451	.2983913
cpairdum567	-3.563057	.0088267	-403.67	0.000	-3.580357	-3.545757
cpairdum568	.3994893	.0096253	41.50	0.000	.3806241	.4183544
cpairdum569	-5.466539	.0188572	-289.89	0.000	-5.503498	-5.429579
cpairdum570	.956067	.0165907	57.63	0.000	.9235498	.9885842
cpairdum571	-.0299853	.0339033	-0.88	0.376	-.0964346	.036464
cpairdum572	1.451444	.0224294	64.71	0.000	1.407483	1.495404
cpairdum573	-.940301	.0073347	-128.20	0.000	-.9546767	-.9259253
cpairdum575	0	(omitted)				
cpairdum576	.0026466	.0083448	0.32	0.751	-.0137088	.0190021
cpairdum577	1.135549	.0092588	122.65	0.000	1.117402	1.153696
cpairdum578	.7870756	.0160933	48.91	0.000	.7555333	.818618
cpairdum579	-1.019409	.0080473	-126.68	0.000	-1.035182	-1.003637
cpairdum580	-.6543221	.0078656	-83.19	0.000	-.6697384	-.6389058
cpairdum581	-.0470852	.0144352	-3.26	0.001	-.0753776	-.0187927
cpairdum582	-1.172412	.0212608	-55.14	0.000	-1.214083	-1.130742
cpairdum583	.472841	.0084628	55.87	0.000	.4562541	.4894278
cpairdum584	.7693322	.0085442	90.04	0.000	.7525859	.7860786
cpairdum585	-.2961341	.0091023	-32.53	0.000	-.3139742	-.278294
cpairdum587	-.0088531	.0095836	-0.92	0.356	-.0276367	.0099305
cpairdum588	.2781244	.0086509	32.15	0.000	.2611689	.2950799
cpairdum589	.0449227	.0090614	4.96	0.000	.0271627	.0626827

cpairdum590	.4755337	.0151767	31.33	0.000	.4457879	.5052794
cpairdum591	.8823693	.0231822	38.06	0.000	.836933	.9278055
cpairdum592	1.012748	.0091213	111.03	0.000	.9948705	1.030625
cpairdum593	-2.539171	.0294554	-86.20	0.000	-2.596903	-2.48144
cpairdum594	-1.295095	.0070392	-183.98	0.000	-1.308891	-1.281298
cpairdum595	-.4932826	.0092474	-53.34	0.000	-.5114072	-.4751581
cpairdum596	1.557277	.009134	170.49	0.000	1.539374	1.575179
cpairdum598	-2.083132	.0183467	-113.54	0.000	-2.11909	-2.047173
cpairdum600	-1.484258	.0083597	-177.55	0.000	-1.500642	-1.467873
cpairdum601	.7298722	.008696	83.93	0.000	.7128284	.746916
cpairdum602	.4134213	.0080358	51.45	0.000	.3976714	.4291713
cpairdum603	.6749068	.0080088	84.27	0.000	.6592098	.6906038
cpairdum604	-3.98445	.0166375	-239.49	0.000	-4.017059	-3.951841
cpairdum605	2.606394	.0160266	162.63	0.000	2.574982	2.637806
cpairdum606	-1.706165	.0217321	-78.51	0.000	-1.748759	-1.66357
cpairdum607	2.821603	.0210902	133.79	0.000	2.780267	2.862939
cpairdum608	.5410698	.0081618	66.29	0.000	.5250729	.5570668
cpairdum609	.7041541	.0184604	38.14	0.000	.6679724	.7403359
cpairdum610	0	(omitted)				
cpairdum611	-.7380638	.0120831	-61.08	0.000	-.7617461	-.7143814
cpairdum612	1.472256	.0090223	163.18	0.000	1.454572	1.489939
cpairdum613	2.621889	.0077768	337.14	0.000	2.606647	2.637131
cpairdum614	-.6618615	.0060649	-109.13	0.000	-.6737486	-.6499745
cpairdum615	.4861571	.0087259	55.71	0.000	.4690546	.5032597
cpairdum616	.4712996	.0281754	16.73	0.000	.4160769	.5265223
cpairdum617	2.90303	.0123301	235.44	0.000	2.878863	2.927196
cpairdum618	1.108641	.0095849	115.67	0.000	1.089855	1.127427
cpairdum619	1.959238	.008201	238.90	0.000	1.943164	1.975311
cpairdum620	1.311222	.0092814	141.27	0.000	1.29303	1.329413
cpairdum621	5.914202	.0210271	281.27	0.000	5.87299	5.955414
cpairdum622	.8609081	.0082261	104.66	0.000	.8447852	.877031
cpairdum623	.9035002	.0093631	96.50	0.000	.8851488	.9218515
cpairdum624	.6988185	.0085322	81.90	0.000	.6820956	.7155413
cpairdum625	2.286568	.0165087	138.51	0.000	2.254211	2.318924
cpairdum626	-.6275645	.0106717	-58.81	0.000	-.6484807	-.6066483
cpairdum627	1.488564	.0074168	200.70	0.000	1.474027	1.5031
cpairdum628	-.5726117	.0138736	-41.27	0.000	-.5998036	-.5454199
cpairdum629	.343942	.0095716	35.93	0.000	.325182	.362702
cpairdum630	.9142179	.0107905	84.72	0.000	.8930689	.9353669
cpairdum631	-.4176477	.0143958	-29.01	0.000	-.4458629	-.3894326
cpairdum632	-.7777977	.0051531	-150.94	0.000	-.7878975	-.7676979
cpairdum633	.5151854	.010109	50.96	0.000	.495372	.5349987
cpairdum634	1.126006	.0126986	88.67	0.000	1.101118	1.150895
cpairdum635	1.156424	.0072379	159.77	0.000	1.142238	1.17061
cpairdum636	-.7662991	.0070779	-108.27	0.000	-.7801716	-.7524266
cpairdum637	1.08999	.0108452	100.50	0.000	1.068734	1.111246
cpairdum638	3.442876	.008854	388.85	0.000	3.425522	3.460229
cpairdum639	3.175888	.0136425	232.79	0.000	3.149149	3.202627
cpairdum640	3.249911	.0100773	322.50	0.000	3.23016	3.269662
cpairdum641	1.28164	.0071037	180.42	0.000	1.267717	1.295563
cpairdum642	3.788912	.0260661	145.36	0.000	3.737824	3.840001
cpairdum643	0	(omitted)				
cpairdum644	.5153209	.0149894	34.38	0.000	.4859423	.5446996
cpairdum645	1.671754	.0200305	83.46	0.000	1.632495	1.711013
cpairdum646	2.042545	.014198	143.86	0.000	2.014717	2.070372
cpairdum647	-.5763849	.0047835	-120.49	0.000	-.5857603	-.5670094
cpairdum648	-.0916502	.0118628	-7.73	0.000	-.1149008	-.0683997
cpairdum649	2.973227	.0329856	90.14	0.000	2.908576	3.037877
cpairdum650	1.210553	.0136861	88.45	0.000	1.183728	1.237377
cpairdum651	.3550366	.009523	37.28	0.000	.3363719	.3737013
cpairdum652	3.272937	.0085722	381.81	0.000	3.256136	3.289738
cpairdum653	1.656281	.0194503	85.15	0.000	1.61816	1.694403
cpairdum654	2.627135	.0159298	164.92	0.000	2.595913	2.658357

cpairdum655	2.93221	.009535	307.52	0.000	2.913521	2.950898
cpairdum656	.4037162	.0092873	43.47	0.000	.3855135	.4219189
cpairdum657	.2094976	.0092562	22.63	0.000	.1913559	.2276394
cpairdum658	4.253192	.0176213	241.37	0.000	4.218655	4.287729
cpairdum659	-3.571726	.0134364	-265.82	0.000	-3.598061	-3.545392
cpairdum660	-.2620783	.0165149	-15.87	0.000	-.2944469	-.2297098
cpairdum661	2.633995	.0202062	130.36	0.000	2.594392	2.673599
cpairdum662	-5.392256	.0104023	-518.37	0.000	-5.412644	-5.371868
cpairdum663	.4206526	.014994	28.05	0.000	.3912649	.4500403
cpairdum664	-1.229279	.0075341	-163.16	0.000	-1.244045	-1.214512
cpairdum665	.887415	.010137	87.54	0.000	.8675469	.9072832
cpairdum666	.6232473	.0136373	45.70	0.000	.5965187	.649976
cpairdum667	-2.428439	.010049	-241.66	0.000	-2.448135	-2.408744
cpairdum668	.9392653	.0088508	106.12	0.000	.9219182	.9566125
cpairdum669	-.1178985	.0265102	-4.45	0.000	-.1698575	-.0659395
cpairdum670	3.783533	.0085443	442.81	0.000	3.766786	3.800279
cpairdum671	1.415486	.0119159	118.79	0.000	1.392131	1.438841
cpairdum672	-1.071482	.0215988	-49.61	0.000	-1.113815	-1.029149
cpairdum674	2.920463	.0078846	370.40	0.000	2.905009	2.935917
cpairdum675	-.5544929	.0321035	-17.27	0.000	-.6174145	-.4915712
cpairdum676	0	(omitted)				
cpairdum677	-.3341088	.0053316	-62.67	0.000	-.3445586	-.323659
cpairdum678	5.2482	.0089924	583.62	0.000	5.230575	5.265825
cpairdum679	2.416862	.0037649	641.94	0.000	2.409483	2.424241
cpairdum680	-1.909581	.0070445	-271.07	0.000	-1.923388	-1.895774
cpairdum681	.897716	.0073583	122.00	0.000	.8832939	.9121381
cpairdum682	-.4908704	.0083767	-58.60	0.000	-.5072885	-.4744524
cpairdum683	5.728319	.014734	388.78	0.000	5.69944	5.757197
cpairdum684	2.805133	.0078987	355.14	0.000	2.789652	2.820615
cpairdum685	3.635344	.0083981	432.88	0.000	3.618884	3.651805
cpairdum686	3.272889	.0110022	297.48	0.000	3.251325	3.294452
cpairdum687	9.632953	.0263795	365.17	0.000	9.58125	9.684656
cpairdum688	2.993605	.0090322	331.44	0.000	2.975902	3.011307
cpairdum689	2.632456	.0082435	319.34	0.000	2.616299	2.648613
cpairdum690	.5962146	.0084801	70.31	0.000	.5795938	.6128353
cpairdum691	5.452104	.0157719	345.68	0.000	5.421191	5.483016
cpairdum692	1.800391	.0146034	123.29	0.000	1.771769	1.829013
cpairdum693	2.03246	.0095528	212.76	0.000	2.013736	2.051183
cpairdum694	2.623735	.022551	116.35	0.000	2.579536	2.667934
cpairdum695	.5687469	.0087374	65.09	0.000	.5516219	.5858718
cpairdum696	3.497925	.0085064	411.21	0.000	3.481253	3.514597
cpairdum697	-.2449134	.009656	-25.36	0.000	-.2638388	-.225988
cpairdum698	1.987061	.0077145	257.58	0.000	1.971941	2.002182
cpairdum699	2.296881	.0049025	468.52	0.000	2.287272	2.306489
cpairdum700	-2.061781	.0061101	-337.44	0.000	-2.073757	-2.049806
cpairdum701	2.200556	.0093243	236.00	0.000	2.182281	2.218831
cpairdum702	1.479518	.0085825	172.39	0.000	1.462697	1.49634
cpairdum703	-3.131079	.0032644	-959.17	0.000	-3.137477	-3.124681
cpairdum704	5.561238	.0109251	509.03	0.000	5.539825	5.582651
cpairdum705	7.239777	.0139958	517.28	0.000	7.212345	7.267208
cpairdum706	7.523696	.016265	462.57	0.000	7.491817	7.555575
cpairdum707	3.357073	.0068877	487.40	0.000	3.343573	3.370573
cpairdum708	4.39229	.0182673	240.45	0.000	4.356487	4.428093
cpairdum709	0	(omitted)				
cpairdum710	1.071156	.0032781	326.76	0.000	1.064731	1.077581
cpairdum711	5.695021	.0092139	618.09	0.000	5.676962	5.71308
cpairdum712	1.914546	.0073012	262.22	0.000	1.900236	1.928856
cpairdum713	2.654579	.0057842	458.93	0.000	2.643242	2.665916
cpairdum714	1.60888	.0078214	205.70	0.000	1.59355	1.624209
cpairdum716	3.873133	.012789	302.85	0.000	3.848067	3.898199
cpairdum717	1.400498	.0094425	148.32	0.000	1.381991	1.419005
cpairdum718	2.845341	.0088759	320.57	0.000	2.827945	2.862738
cpairdum719	5.209854	.0101376	513.92	0.000	5.189984	5.229723

cpairdum720	8.103292	.0280835	288.54	0.000	8.048249	8.158334
cpairdum721	2.032466	.0098424	206.50	0.000	2.013175	2.051757
cpairdum722	2.513341	.0094226	266.74	0.000	2.494873	2.531809
cpairdum723	2.05682	.0086264	238.43	0.000	2.039912	2.073727
cpairdum724	1.160305	.0162439	71.43	0.000	1.128468	1.192143
cpairdum725	.4714699	.0116543	40.45	0.000	.448628	.4943118
cpairdum726	2.429451	.0067795	358.35	0.000	2.416163	2.442738
cpairdum727	-1.567198	.0217975	-71.90	0.000	-1.60992	-1.524476
cpairdum728	.0885209	.0647315	1.37	0.171	-.0383506	.2153924
cpairdum729	3.574413	.0108008	330.94	0.000	3.553244	3.595582
cpairdum730	-.9280583	.0133548	-69.49	0.000	-.9542333	-.9018833
cpairdum731	.6132003	.0046837	130.92	0.000	.6040204	.6223803
cpairdum732	2.527966	.0112705	224.30	0.000	2.505877	2.550056
cpairdum733	-1.971648	.0047654	-413.74	0.000	-1.980988	-1.962308
cpairdum734	3.406832	.0089873	379.07	0.000	3.389217	3.424447
cpairdum735	.5018039	.0063907	78.52	0.000	.4892784	.5143294
cpairdum736	-.0121643	.0042748	-2.85	0.004	-.0205428	-.0037859
cpairdum737	.3690498	.0108201	34.11	0.000	.3478428	.3902567
cpairdum738	3.216782	.0153832	209.11	0.000	3.186631	3.246932
cpairdum739	4.923392	.0148167	332.29	0.000	4.894352	4.952432
cpairdum740	1.919622	.0080555	238.30	0.000	1.903834	1.935411
cpairdum741	1.831522	.016547	110.69	0.000	1.799091	1.863954
cpairdum742	0	(omitted)				
cpairdum743	-2.1434	.0062769	-341.48	0.000	-2.155702	-2.131097
cpairdum744	7.278741	.0085019	856.13	0.000	7.262077	7.295404
cpairdum745	2.474289	.0076682	322.67	0.000	2.45926	2.489319
cpairdum746	-.2719365	.0111037	-24.49	0.000	-.2936994	-.2501736
cpairdum747	1.573767	.0084604	186.02	0.000	1.557185	1.590349
cpairdum748	-.6186741	.0163008	-37.95	0.000	-.6506231	-.5867252
cpairdum749	10.37417	.0153779	674.62	0.000	10.34403	10.40431
cpairdum750	3.933969	.0068835	571.51	0.000	3.920477	3.94746
cpairdum751	3.911531	.0086739	450.95	0.000	3.894531	3.928532
cpairdum752	2.390055	.0199561	119.77	0.000	2.350942	2.429169
cpairdum753	8.098305	.0223822	361.82	0.000	8.054437	8.142174
cpairdum754	2.81797	.0117184	240.47	0.000	2.795002	2.840937
cpairdum755	3.164843	.0078039	405.55	0.000	3.149548	3.180139
cpairdum756	.7353059	.0092155	79.79	0.000	.7172439	.7533679
cpairdum757	2.635474	.0212706	123.90	0.000	2.593784	2.677163
cpairdum758	4.579593	.0156946	291.80	0.000	4.548832	4.610354
cpairdum759	1.349081	.020043	67.31	0.000	1.309798	1.388365
cpairdum760	1.80704	.0186673	96.80	0.000	1.770453	1.843627
cpairdum761	.3812229	.0077392	49.26	0.000	.3660543	.3963916
cpairdum762	5.465125	.0084186	649.17	0.000	5.448625	5.481625
cpairdum763	.1428819	.0121794	11.73	0.000	.1190108	.1667531
cpairdum764	4.966821	.0070152	708.01	0.000	4.953071	4.980571
cpairdum765	2.197217	.0086617	253.67	0.000	2.180241	2.214194
cpairdum766	-.3723123	.0054345	-68.51	0.000	-.3829638	-.3616608
cpairdum767	3.209631	.0113371	283.11	0.000	3.187411	3.231851
cpairdum768	2.199615	.0155634	141.33	0.000	2.169111	2.230119
cpairdum769	2.801647	.0081582	343.42	0.000	2.785657	2.817636
cpairdum770	4.010868	.0129043	310.82	0.000	3.985576	4.03616
cpairdum771	4.067352	.0114413	355.50	0.000	4.044928	4.089777
cpairdum772	8.472332	.0168203	503.70	0.000	8.439365	8.505299
cpairdum773	2.771994	.0068594	404.11	0.000	2.758549	2.785438
cpairdum774	4.40284	.0096896	454.39	0.000	4.383849	4.421831
cpairdum775	0	(omitted)				
cpairdum777	9.997363	.0166936	598.87	0.000	9.964644	10.03008
cpairdum778	4.547015	.0163098	278.79	0.000	4.515048	4.578981
cpairdum779	-.8600528	.0242838	-35.42	0.000	-.9076482	-.8124574
cpairdum780	4.784481	.0171585	278.84	0.000	4.750851	4.818111
cpairdum782	4.84488	.0341721	141.78	0.000	4.777904	4.911856
cpairdum783	3.821764	.0080621	474.04	0.000	3.805963	3.837566
cpairdum784	4.559319	.0157739	289.04	0.000	4.528403	4.590235

cpairdum785	1.412614	.0273364	51.68	0.000	1.359036	1.466193
cpairdum786	7.701362	.0213417	360.86	0.000	7.659533	7.743191
cpairdum787	3.456338	.0187665	184.18	0.000	3.419557	3.49312
cpairdum788	2.768049	.0141487	195.64	0.000	2.740318	2.79578
cpairdum789	3.515326	.0084388	416.57	0.000	3.498786	3.531866
cpairdum790	5.076744	.0277232	183.12	0.000	5.022408	5.131081
cpairdum791	4.718363	.0189403	249.12	0.000	4.681241	4.755485
cpairdum792	2.308931	.022707	101.68	0.000	2.264426	2.353436
cpairdum794	-.189387	.0181899	-10.41	0.000	-.2250385	-.1537354
cpairdum795	6.195435	.0123255	502.65	0.000	6.171278	6.219593
cpairdum796	1.854928	.0102503	180.96	0.000	1.834838	1.875018
cpairdum797	.9415586	.0121627	77.41	0.000	.9177202	.965397
cpairdum798	1.906915	.019736	96.62	0.000	1.868233	1.945597
cpairdum800	3.062003	.0195554	156.58	0.000	3.023675	3.10033
cpairdum801	2.303185	.034116	67.51	0.000	2.236318	2.370051
cpairdum802	.515961	.0188882	27.32	0.000	.4789407	.5529812
cpairdum803	3.852037	.0302909	127.17	0.000	3.792668	3.911406
cpairdum804	4.164721	.0171562	242.75	0.000	4.131096	4.198347
cpairdum805	7.317166	.0263026	278.19	0.000	7.265614	7.368718
cpairdum806	3.068715	.0124814	245.86	0.000	3.044252	3.093178
cpairdum807	7.316074	.0252917	289.27	0.000	7.266503	7.365644
cpairdum808	0	(omitted)				
cpairdum809	-.3819469	.0285865	-13.36	0.000	-.4379754	-.3259185
cpairdum810	1.639979	.0100214	163.65	0.000	1.620338	1.659621
cpairdum811	2.166211	.0134254	161.35	0.000	2.139897	2.192524
cpairdum812	-.9076546	.006996	-129.74	0.000	-.9213665	-.8939426
cpairdum813	.1968276	.0073905	26.63	0.000	.1823425	.2113127
cpairdum815	2.603908	.0210996	123.41	0.000	2.562554	2.645263
cpairdum816	1.002921	.010339	97.00	0.000	.9826566	1.023185
cpairdum817	3.203256	.0090577	353.65	0.000	3.185503	3.221009
cpairdum818	-1.625521	.0135686	-119.80	0.000	-1.652115	-1.598927
cpairdum819	5.963609	.0317371	187.91	0.000	5.901406	6.025813
cpairdum820	4.043901	.0102326	395.20	0.000	4.023846	4.063957
cpairdum821	-.036466	.00986	-3.70	0.000	-.0557913	-.0171407
cpairdum822	.0737163	.0086067	8.57	0.000	.0568475	.0905851
cpairdum823	-.2661011	.0185959	-14.31	0.000	-.3025484	-.2296537
cpairdum824	-6.924176	.0314883	-219.90	0.000	-6.985892	-6.86246
cpairdum825	1.567249	.0138546	113.12	0.000	1.540094	1.594403
cpairdum826	-.6907971	.0284405	-24.29	0.000	-.7465394	-.6350548
cpairdum827	-3.392739	.0348579	-97.33	0.000	-3.46106	-3.324419
cpairdum828	-.3640896	.0105016	-34.67	0.000	-.3846723	-.3435069
cpairdum829	-1.314743	.0138596	-94.86	0.000	-1.341908	-1.287579
cpairdum830	-2.129862	.016871	-126.24	0.000	-2.162928	-2.096795
cpairdum831	.5951859	.0180477	32.98	0.000	.5598132	.6305587
cpairdum833	1.158424	.0089311	129.71	0.000	1.140919	1.175929
cpairdum834	2.631119	.0075924	346.55	0.000	2.616239	2.646
cpairdum835	.8978994	.0221546	40.53	0.000	.8544772	.9413217
cpairdum836	1.174296	.0272608	43.08	0.000	1.120866	1.227727
cpairdum837	.6206446	.0188125	32.99	0.000	.5837727	.6575165
cpairdum840	-.8136298	.0301681	-26.97	0.000	-.8727582	-.7545013
cpairdum841	0	(omitted)				
cpairdum842	-1.192849	.0180833	-65.96	0.000	-1.228292	-1.157406
cpairdum843	5.223972	.0087303	598.37	0.000	5.206861	5.241083
cpairdum844	2.472525	.0090298	273.82	0.000	2.454827	2.490223
cpairdum845	-1.772417	.0096705	-183.28	0.000	-1.791371	-1.753463
cpairdum846	.0786199	.0077405	10.16	0.000	.0634489	.0937909
cpairdum847	-5.356209	.008668	-617.93	0.000	-5.373198	-5.33922
cpairdum848	5.706389	.0067996	839.22	0.000	5.693062	5.719716
cpairdum849	1.329164	.0089536	148.45	0.000	1.311615	1.346712
cpairdum850	1.645546	.0066697	246.72	0.000	1.632474	1.658618
cpairdum851	2.574433	.0077347	332.84	0.000	2.559273	2.589593
cpairdum852	7.287641	.0175034	416.36	0.000	7.253335	7.321947
cpairdum853	1.196495	.0030477	392.59	0.000	1.190521	1.202468

cpairdum854	1.158658	.0079972	144.88	0.000	1.142983	1.174332
cpairdum855	.6685686	.008723	76.64	0.000	.6514719	.6856653
cpairdum856	7.063639	.0121554	581.11	0.000	7.039814	7.087463
cpairdum857	-2.044233	.0095275	-214.56	0.000	-2.062906	-2.025559
cpairdum858	.5327268	.0115217	46.24	0.000	.5101446	.555309
cpairdum859	-6.114154	.0212653	-287.52	0.000	-6.155834	-6.072475
cpairdum860	1.158882	.0082187	141.01	0.000	1.142774	1.174991
cpairdum861	2.746334	.0088011	312.04	0.000	2.729084	2.763584
cpairdum862	-.2241111	.0162078	-13.83	0.000	-.2558779	-.1923443
cpairdum863	.6556016	.008695	75.40	0.000	.6385597	.6726434
cpairdum864	0	(omitted)				
cpairdum865	1.087217	.0066135	164.39	0.000	1.074255	1.100179
cpairdum866	0	(omitted)				
cpairdum868	2.070035	.0081543	253.86	0.000	2.054053	2.086017
cpairdum869	1.523155	.0139965	108.82	0.000	1.495722	1.550588
cpairdum870	-2.07982	.0129946	-160.05	0.000	-2.105289	-2.054351
cpairdum871	-.0547299	.0077556	-7.06	0.000	-.0699306	-.0395293
cpairdum872	4.488521	.0120941	371.13	0.000	4.464817	4.512224
cpairdum873	4.485964	.0058319	769.21	0.000	4.474533	4.497394
cpairdum874	3.679938	.016839	218.54	0.000	3.646934	3.712942
cpairdum875	0	(omitted)				
cpairdum876	0	(omitted)				
cpairdum877	0	(omitted)				
cpairdum878	0	(omitted)				
cpairdum879	0	(omitted)				
cpairdum880	0	(omitted)				
cpairdum881	0	(omitted)				
cpairdum882	0	(omitted)				
cpairdum883	0	(omitted)				
cpairdum884	0	(omitted)				
cpairdum885	0	(omitted)				
cpairdum886	0	(omitted)				
cpairdum887	0	(omitted)				
cpairdum888	0	(omitted)				
cpairdum889	0	(omitted)				
cpairdum890	0	(omitted)				
cpairdum891	0	(omitted)				
cpairdum892	0	(omitted)				
cpairdum893	0	(omitted)				
cpairdum894	0	(omitted)				
cpairdum895	0	(omitted)				
cpairdum896	0	(omitted)				
cpairdum897	0	(omitted)				
cpairdum898	0	(omitted)				
cpairdum900	0	(omitted)				
cpairdum902	0	(omitted)				
cpairdum903	0	(omitted)				
cpairdum904	0	(omitted)				
cpairdum905	0	(omitted)				
cpairdum906	0	(omitted)				
cpairdum907	0	(omitted)				
cpairdum908	0	(omitted)				
cpairdum909	0	(omitted)				
cpairdum910	0	(omitted)				
cpairdum911	0	(omitted)				
_cons	-17.87352	2.317742	-7.71	0.000	-22.41621	-13.33083

```
Number of regressors dropped to ensure that the estimates exist: 95
Dropped variables:  cpairdum1 cpairdum5 cpairdum8 cpairdum10 cpairdum11 cpairdum17 cpairdum22 cp
> airdum24 cpairdum30 cpairdum31 cpairdum32 cpairdum102 cpairdum103 cpairdum104 cpairdum105 cpai
> rdum106 cpairdum107 cpairdum108 cpairdum109 cpairdum110 cpairdum111 cpairdum112 cpairdum113 cp
> airdum115 cpairdum116 cpairdum117 cpairdum118 cpairdum119 cpairdum120 cpairdum122 cpairdum123
> cpairdum124 cpairdum125 cpairdum126 cpairdum127 cpairdum128 cpairdum129 cpairdum130 cpairdum13

> 1 cpairdum132 cpairdum133 cpairdum135 cpairdum139 cpairdum140 cpairdum144 cpairdum145 cpairdum
> 148 cpairdum149 cpairdum150 cpairdum151 cpairdum155 cpairdum157 cpairdum159 cpairdum160 cpaird
> um161 cpairdum162 cpairdum163 cpairdum164 cpairdum173 cpairdum189 cpairdum191 cpairdum226 cpai
> rdum280 cpairdum321 cpairdum329 cpairdum358 cpairdum360 cpairdum382 cpairdum393 cpairdum395 cp
> airdum403 cpairdum412 cpairdum489 cpairdum547 cpairdum551 cpairdum562 cpairdum564 cpairdum565
> cpairdum574 cpairdum586 cpairdum597 cpairdum599 cpairdum673 cpairdum715 cpairdum776 cpairdum78
> 1 cpairdum793 cpairdum799 cpairdum814 cpairdum832 cpairdum838 cpairdum839 cpairdum867 cpairdum
> 899 cpairdum901
Option strict is off
```

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