Agglomeration and Institutional Determinants on the Location of Franchised Fast Food Networks in Latin America

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Structured Abstract

Research Question: Does the institutional quality of city mediates the agglomeration effects of multinational companies location decision?

Purpose of the paper: The paper explores the location decision of multinationals across major cities in Latin America. The location of multinationals across major cities is explored through the theory of agglomeration economics and institutional theory. The poor institutional quality of a city can temper the attraction of agglomeration factors such as size of the city population and buying power and vise versa.

Method/ Approach: We approach the research questions through an analysis of three global fast food franchise networks in 45 Latin American cities, which are the largest metropolitan areas in the region. We analyzed the geographic dispersion of these franchise networks through OLS regression with controls for city population and levels of economic power. Two types of agglomeration were studied: horizontal agglomeration (companies of all industries) and vertical agglomeration (companies across de value chain).

Findings: We found that the investment location choice of fast food networks is driven principally by market conditions and horizontal agglomeration. Fast food multinationals seem to mitigate the risks of weak institutional environments and inefficient supply linkages (vertical agglomeration) by co-locating their stores in cities where there is some presence of other multinationals and financial institutions

Research Limitations: The limitations of the study are the number and type of fast food franchised networks considered. There are a number of global fast food franchises in Latin America, which were not included in the study. Future studies should include a greater number of global and local fast food franchisers. Their inclusion could alter the results.

Practical Implications: Theory and policy implications suggest that positive reinforcements of agglomeration and strong institutional are important for the investment location decision of fast food multinationals. Vertical agglomeration is not as important but helps with the decision. The quality of the institutional quality of the city should be an important consideration in the location decision as it expands regionally and within a country. Smaller cities may not offer the agglomeration advantages of the large metropolitan areas but their good institutional quality may reduce the business costs for multinationals.

Originality/Value contribution: The inclusion of institutional quality at the city level as mediator of the agglomeration factors influencing the location decision of a multinational is original. Past research on location decisions of multinationals is at the country level. This study

contributes to our understanding of the importance of smaller cities in attracting the investment of multinational firms.

Key Words: Fast food networks, Agglomeration, Institutional quality, Latin America, Regional strategy

Introduction

Whenmultinationalcompaniesmakeforeigninvestmentdecisionstheyareinfluencedbytheadvantages ofco-locationwithotherfirms(agglomerationeconomics),thequalityof institutions,andtheincentivesthattheyprovidetopromotetheirlocationandprotecttheinvestment. Furthermore,FDItheorypositsthatthefactorsinfluencingthedecisionareafunctionoftheinvestmentm otivation.Foursuchinvestmentmotivationsareresourceseeking,marketseeking,efficiencyseekingan dstrategicassetseeking.

Inthisarticle,wefocusontheinvestmentdecisionsoffastfoodmultinationals.Theexpansionofglobalfas tfoodchainsisabarometeroftheextentofglobalization.Their expansionhasbeenassociatedwiththeemergenceofglobalmiddleclassesandanurbanized life-stylewithastrongpreferenceforconvenienceandaffordability.Beyondtheglobaldemandopportunity,t heabilityofinvestorstoquicklypropagatetheirchainsisalsoafunctionofthewaveofmarketreformsthath aveprovidedafavorableinvestmentenvironmentforinvestors.Thus,therapidexpansionofthesemultin ationalsisnotonly demand-drivenbutalsotheresultoftheimprovementofthequalityoftheinstitutionsthatregulatetheiroperations.

Fastfoodmultinationalsassesstheinterplayofdemand,supplyandlocalinstitutionalenvironmenttosup porttheirinvestmentdecisions.Asfranchisingisapreferredmodeof operationforthesecompanies,thedecisioninvolvesassessingthenumberandlocationof storesthatagivenmetropolitanareamaysupport.Inmanycases,thisisajointdecision betweenthemasterfranchisorandthemasterfranchiseeforacountryorregion.Overtime,afranchisorwil lpopulateitsdesignatedareawithstoresandthuscreateanetworkofstores. Thepurposeofthisarticleistoexplainthedeterminantsofthespatialdistributionpatternof fastfoodfranchisinginLatinAmerica.Weexplorethisresearchquestionfromtheperspectivesoftheimp actofagglomerationeconomicsandinstitutionalqualityimpacts. Morespecifically,weexploretheinterestingresearchquestionoftheextentoftheinterplay betweenagglomerationandqualityofinstitutions.AsLatinAmericahasbeencharacterized asaregionofweakinstitutions,wefocusonwhetheragglomerationadvantagesmay compensateallofthepe rilsofoperatinginpoorinstitutionalenvironments.Wealso investigatewhetherthelackofagglomerationinsmallermarketsmaybecompensatedwith relativelystrongerlocalgovernance.

Weapproachtheresearchquestionsthroughananalysisofthreeglobalfastfoodfranchisenetworksin45L atinAmericancities,whicharethelargestmetropolitanareasintheregion. Usingindicatorsofdemand,agglomerationandinstitutionaldataforthesecities,weanalyzed thegeographicdispersionofthesefranchisenetworksthroughOLSregressionwithcontrols forcitypopulationandlevelsofeconomicpower.

Increaseddiscretionaryincomehasattracted Latin American consumers to fast food restaurants for their convenience, price, and value. Furthermore, increased urbanization, more women entering the workforce and increased single parent households are changing traditional meal patterns and home cooking. These trends have been supported the rapid expansion of native and global fast food chains.

As the middle class and urban populations continue to increase, the market can only grow larger. In fact, Latin American countries top the global list of fast-food store density. A recent report of global fast food density shows Peru as the number one country. On average, a Peruvian travels 0.6 of a mile to find a fast food establishment. Using the same indicator of density, Ecuador, Guatemala and Mexico rank 4th, 5th, and 6th worldwide. Other top ranked Latin American countries are El Salvador, Venezuela, Honduras, Colombia, Brazil, Dominican Republic and Argentina (Bloomberg, 2013).

The high density of fast food restaurants is an indication that Latin American consumers love to eat out. Fast food establishments in Latin America are mostly in large metropolitan areas such as Lima, Buenos Aires, Mexico City, and Sao Paulo. Increasingly, fast food operators are also penetrating secondary and tertiary markets. Thus, the region presents an important setting to analyze the factors driving the investment decisions behind the growth. See Appendix 1 for more information about the Latin American fast food industry.

The article is organized in four parts. The first section reviews agglomeration and institutional theory as it relates to investment location choices and advances six hypotheses. The second section provides an account of the data and methodology used. The third section presents the results of the analysis of the data and hypothesis testing. The final section offers a summary of the results and implications for theory and policies.

Theory Review and Hypotheses

Three streams of research are the bases for the study of the investment location choice of multinationals: Agglomeration economics, International Business and Institutional Theory.

Agglomeration Economics

The concentration of businesses and economic activity in a single location has been identified as the economics of agglomeration (Marshall, 1920). The co-location of economic activities by a cluster of firms generates externalities that benefit all. Marshall (1920) was the first to argue that co-location attracts a pool of specialized labor, facilitates the development of specialized inputs and services, and leads to substantial technological spillovers.

Krugman (1991) developed a conceptual model that demonstrates that those externalities are not only industry specific but are more generalized to core and peripheral activities and generate positive synergies from the interaction of backward and forward linkages within a cluster. These

synergiescreatewhathasbeendefinedasverticalagglomeration.Thus, verticalagglomerationistheconcentrationoffirmswithupstreamanddownstreamoperations thatcreateefficienciesinanindustryvaluechain.Concentrationacrossindustriescreates furtherspilloverеffectstoall.Thedynamicverticallinkagesgeneratefurtherpositiveeffects andstrongereconomiesofscalewhenfirmsconcentratenearlargemarkets.Thus,theconcentrationoffir msnearthemarketisdefinedashorizontalagglomeration.Horizontalagglomerationbringseconomieso fscaletodistributionandretailactivitiesoffirms.

Insum,externaleconomiesareanincreasingfunctionofthenumberoffirmsthatdecideto co-locateandmakealocationattractiveforinvestment.Asfirmsconcentrate,however,they bidupthepricesofspecializedinputsandsufferfromincreasingrisksoftechnologicalspillovers.

TheimpactofagglomerationeconomieshasalsobeenidentifiedintheFDIliteratureon investmentlocationchoice.Inthiscase,externalitiesarederivedbytheco-locationof multinationalsfromthesamecountryoforigin.Tan&Meyer(2011)distinguishbetween sameindustryagglomerationandsamecountryoforiginagglomeration.Sameindustry agglomerationderivesbenefitsfromtheexternalitiesofeconomicagglomerationaswas discussedabove.Theyadd,however,thatmostofthebenefitsarecontractuallybasedand thusaresubjecttothequalityoftheregulationsandlegalframeworksofthelocation.Thus, onewaytoattracttheseagglomerationsisforlocalitiestoprovideefficientandstrong enforcementofcontractsunderastronglegalframework.

Withrespecttoagglomerationeffectsofsamecountryoforiginmultinationals,Tan&Meyer (2011)arguethatmultinationalswouldprefertobeclosetoothermultinationalsfromsamecountry.Such co-locationallowsthemtoshareinformation,establishmechanismsandtools tolobbyasagroupandgainlegitimacy.Withtheadditionaltrustbasedonsameculture, multinationalsmayalsominimizethecostsoftechnologicalandknowledgespilloversand facelowercompetitionforinputsandskilledlabor.

Theco-locationofmultinationalsfromthesamecountryoforiginisparticularlyimportantwheninstitutionalvoi dsarepresentinanattractivelocation.Intheselocations,relationships basedontrustsupersedepoorenforcementofcontractualrelationships.Trustishighwhen thoserelationshipsarewithmultinationalsfromthesamecountryoforigin.

Head,Ries&Swenson(1995)offerempiricalsupporttosameindustryandsamecountry agglomeration.Theirstudyofthelocationchoicesof751Japanesemanufacturingplantsin theU.S.showsthatthesecompaniesprefertositetheirplantsinareaswherethereisahigh concentrationofUScompaniesinthesameindustryandalsowheretherearesubstantialJapaneseinvestm ents.

Crozet,Mayer&Muchielli(2004)alsoprovidesupporttotheagglomerationofforeign multinationalsinFrance.Theirstudyofasampleof4000foreigninvestmentsrevealsstrong agglomerationincomputers,carparts,machinetoolsandofficemachineryindustries.They foundweakagglomerationinindustriesthataremoresensitivetowagelevelssuchas clothing.Theirstudyalsorevealedthatthecountryoforigineffectsisnothomogeneous.Theresultsshowe

dstrongagglomerationeffectsformultinationalsfromJapan,U.S,Britain,and BelgiumbutnotformultinationalsfromtheNetherlands,GermanyorItaly.

Korez-Videet.al(2014)alsostudiedtheco-locationof123GermanandAustrian multinationalsinBrazil.Theirstudyfoundthatthesecompaniesaremorelikelytoinvestin Brazilianstateswheretherewerepriorinvestmentsfrommultinationalsfromthesamecountryfororigin. Basedonaqualitativestudy,theauthorscorroboratednotonlytheimportanceofproximitytoothermultin ationalsfromthesamecountrybutalsototheir customersandsuppliers.

More recently, Alfaro and Chen (2014) studied the location and ownership of a large database (43 million) plants in over 100 countries. The authors found that likely of agglomeration is higher for multinational headquarters, followed by their subsidiaries and lastly domestic plants. The authors found that foreign subsidiaries in skilled labor and R&D intensive industries are more agglomerative than any other firms. The agglomeration of domestic firms responds more to labor externalities and tend to agglomerate close to their suppliers and customers.

InternationalBusinessTheory.

TheEclecticParadigmofInternationalBusinessTheoryidentifiesthreefundamentalfactors drivingtheforeigndirectinvestmentdecision:(O)ownership,(L)locationand(I) internalizationfactors.Thelocationfactors,focusofthisarticle,refertolocationspecificfactorsofprodu ctionorspecificassetsthatarecomplementarytotheownershipfactorsand capabilitiesoftheforeigninvestorsintheprocessofaddingvaluetotheirbusiness. Thelocationspecificisagivengeography(region,countryorcity).

TheEcleticTheoryarguesthattheattractivenessoflocalfactorsisafunctionofthemotivationfortheinves tment.Thetheoryidentifiesfourmajorinvestmentmotivations:ResourceSeeking,MarketSeeking,Effi ciencySeeking,andStrategicAssetSeeking.

For marketseekinginvestments multinationals consideranattractivelocationasonethatofferslargeandgrowingdemand,availabilityofskilledandprof essionallabor,thepresenceandcompetitivenessofrelated firms-particularlyinputsuppliers,thequalityofinfrastructureandinstitutionalcompetence, qualityoflocalservicesupportfacilities,themacro-economicpoliciespursuedbythehostgovernmentanditseconomicdevelopmentpromotionincentives(Dunning,1998).

ThelistofspecificfactorsidentifiedastheLoftheOLItheoreticalframework,coversabroad setofvariablesrangingfromdemandconditions,factorinputs,competitionand institutionalenvironment.TheFDI-Theoryfocusesonthecountrychoiceofaforeign investmentdecision.Weassumethatthemultinationalcompanyhasalreadyconsideredthesefactorsand decidedtoenteragivencountry.Therefore,wefocusonthecityasthegeographicunitofanalysis.Withint hiscontext,theinterpretationofsomeofthesevariablesmaydiffer fromtheconventionalOLIapproach.Forinstance,thecountry’smacro-economicpolicies andregulationsrefertothequalityoftheirimplementationandenforcementratherthanto theirformulation.

AstudybyGoerzenet.al(2013)usesOLItheorytostudythefactorsinfluencingthechoices of8541subsidiariesofJapanesemultinationalstoestablishpresencein122globaland secondarycities.Theirstudyfoundmarket-seekingmultinationalsaremorelikelytolocatein globalcitieswhereasefficiency-seekingmultinationalslocateinperipheralcities.Theauthors arguethatseveralcharacteristicsofglobalcitieshelpedovercomethecostsofdoingbusiness asaforeigninvestor(liabilityofforeignness).Thesecharacteristicswaretheirinternationalconnectedne ss,advancedproducerservices,andcosmopolitanservices.

In sum, we conclude that international business theory and the empirical contributions make the same the arguments as the agglomeration economics. The unique contributions of international business theory is the argument that co-location of multinationals of the same country of origin reduces the liability of foreignness. In this paper, we assume that International Business theory is embedded into arguments of agglomeration economics.Basedonagglomeration theory,weadvancethefollowingtwohypothesesforthelocationchoiceoffastfoodnetworks.

H1aThegreaterthelevelofhorizontalagglomerationoffirmsofalltypesinaLatinAmerican city,thegreatertheconcentrationofmultinationals.

H1b.Thegreaterthelevelofverticalagglomerationofindustriesina LatinAmericancity,thegreaterthec oncentrationofmultinationals.

InstitutionalQuality

Thereissubstantialagreementintheimportanceofastronginstitutionalenvironment,good governanceoneconomicdevelopmentandgrowth(North1981,LaPortaetal.1999). TheworkofKaufmanet.al(1999)ontheimpactofgoodgovernanceoneconomicperformanceinparticul arhasspurredagreatdealofempiricalwork.AccordingtoKaufmanet.al(1999), therearesixindicatorsofgoodgovernance:voiceandaccountability,politicalinstability, governmenteffectiveness,regulatoryquality,ruleoflaw,controlofcorruption.Theyarguethatgoodgov ernanceisasine-qua-nontoimprovingthewell beingandper-capitaincomeofsocieties.Othershavearguedthatthequalityofinstitutionsmatters(Rodrick,2004)wher eas otherspointoutatthequalityofpoliciescontributesmoretoeconomicgrowth(Glaeser, 2004).Altogether,governanceandthequalityofinstitutionsclearlyexplaindifferenceson economicgrowth,productivity,andincomepercapitaacrosscountries.

Thequalityoftheinstitutionalenvironmentisofparamountimportancetoforeigninvestors (FDI)andwilldirectlyinfluencetwofundamentalaspectsoftheinvestment-decision.First, governmenteffectivenessandruleoflawwillhaveadirectimpactoninvestment-related transactioncosts.Forinstance,thelackoftransparency,poorenforcementofpropertyrights increasesthetransactioncostsanddetersinvestment.Second,highpoliticalinstability,poor controlofcorruptionandsuppressionofpoliticalvoicedirectlyinfluencethetrustand confidenceoftheforeigninvestorinhostinstitutionsandlocalgovernment.

Atthecitylevel,institutionalqualityreferstotheenforcementofnationalpoliciesandtheimplementation ofcitylevelordinancesthatassuretheefficiencyofmarkets.Therefore,wepositthatcitieswithstrongerin

stitutionswillattractinvestmentfromfranchisednetworks.

H2.Thestrongerthequalityofthecityinstitutionalenvironment(governance,institutions andpolicies),thegreatertheinvestmentoffastfoodnetworks.

EmpiricalstudiessupportfortherelationshipofgoodgovernanceandFDIflows.Mengistu&Adhikary(2011)studiedtheimpactofthesixgovernanceindicatorsandFDIflowsto15 Asianeconomiesbetween1996-2007.Theirstudyfoundthatpoliticalstability,ruleoflaw, controlofcorruption,andgovernmenteffectivenessarestrongandsignificantdeterminantsin attractingFDIinflows.Onthecontrary,voice/accountabilityandthequalityoftheregulatory processwerenotsignificantlyrelatedtoFDIflows.Inanotherempiricalstudy,Ali,Fiessand McDonald(2010)studiedtheimpactofinstitutionalqualityandFDIflowsfor69countriesin Asia,EastEurope,LatinAmerica,MiddleEastandAfricabetween1981and2005.The authorsmeasuredinstitutionalqualitythroughtwoproxies:thequalityoftheinvestmentenvironmentand qualityoflawsrelatedtopropertyrights.Theresultsshowedthatthecombinedindexofinstitutionalquality hasastrongandsignificantimpactindeterminingFDI inflowsindependentofabroadrangeofcontrolvariables.Furthermore,asectorialanalysisof thedatashowedthattheinstitutionalvariablewassignificantformanufacturingandservicesectorsbutnot forextractivenaturalresourceinvestments.

InstitutionalQualityandAggregationEconomicInteractions.

Agglomerationandthequalityofinstitutionscreatesynergisticdynamicsandcircular feedbackforallinvestors.Marketseekinginvestorswillbeattractedtolocationswithstrong institutions.Theagglomerationeffectofaclusterofinvestmentsinturngeneratesgreater externaleconomiesforall.Theeconomicimpactofthecoreandperipheralactivitiescreated byaggregationmakesthelocalmarketevenmoreattractiveasaresultofemploymentcreationandincreases inlocaldisposableincome.Ontheotherhandtoomuchagglomeration maybedetrimentaltothelocaleconomy.Thenegativeaspectsofagglomerationcreatepervasiveeffectso fincreasedcompetitiveloss,increasedcompetitionforinputs,overuseof publicinfrastructure,andincreasedcostsoflivingandevengreatercriminality.

Theendogenousnatureoftherelationbetweenagglomerationandinstitutionalqualityelicitsthefollowi nginterestingquestion:Whatistheneteffectofagglomerationonregionswherethequalityofinstitutions variesfromweaktostrong?Theneteffectcouldbeviewedasoneofpositive,negativeandcompensatingre inforcements.

Positivereinforcementscanbebestdescribedwhenalocationoffersalargeandgrowing marketandhasstronginstitutionsandgoodgovernance.Thelocalmarketconditionsaremorelikelytoattr actdomesticandforeigninvestorstocreatewhatisdefinedashorizontalagglomeration.Thepotentiallos sofcompetitivenessduetotechnologicalspilloversorillegalcompetitionisminimizedinlocalitieswiths trongpropertyprotectionandruleoflaw.Thelocalmarketislargeenoughtoexploiteconomiesofscalefor firmsthatwanttobecloseto customers.Thissecondtypeofinvestmentscreatesaconcentrationoffirmswithbackward andforwardlinkages.Theexternalitiesofthissecondtypeofinvestmentaredefinedas verticalagglomeration.Theimpactofverticalagglomerationistoofferflexibilityofdelivery

andlowersuppliertransactioncosts.Inthiscase,themainconcernsofmultinationalsaretransactioneffici encyandtheabilitytoenforcecontractualrelationships.Theenforcementof contractswillbestronginlocalitieswithstronginstitutions.Insum,agglomeration externalitiesarepositivelyreinforcedinlocationswithstronginstitutionsandgood governance.Thisleadstothefollowinghypothesis.

H3a.Thestrongerthe institutional environment, the stronger the impact ofh o r i z o n t a l agglomerationconditionswill attractagreaterconcentration offastfoodnetworks.

H3b.Thestrongertheinstitutional environment, the stronger the impact that verticalagglomerationconditionsattractagreaterconcentrationoffastfood networks.

Negativereinforcementsarebestdescribedbytheoppositeconditionsofpositivereinforcementinteracti ons.Locationsthatlackstrongmarketconditionsandweak institutionalqualityandpoorgovernanceareintheworst-casescenario.Theselocationsarenotonlyunattractiveonthefundamentalmarketconditionsbutarerisky tobeconsideredfor anyinvestmentThatis,theselocationsareunabletoescapethepervasiveeffectsofnegativereinforcemen ts.Thus,weofferthefollowinghypotheses.

H4aTheweaker the institutional environment, the lesser the likelihood that Latin American cities will be attractive concentrations of fast food networks under weak horizontal agglomeration.

H4b The weaker the institutional environment, the lesser the likelihood that Latin American cities will attract concentrations of fast food networks under weak horizontal agglomerationconditions.

Compensatingreinforcementoccurswhenthefundamentalconditionsforagglomeration exists.Forinstance,theselocationsofferlargemarkets,goodinfrastructure,andavailablequalifiedlabor forcetoinvestors.Ontheotherhand,theirinstitutionsandgovernanceareweak.Endemiccorruptionisan exampleofpoorgovernance.Investorsareattractedbythefundamentallocationcharacteristics(e.g.mar ketsize)butareworriedbytheriskposedbyapoorinstitutionalenvironment.Agglomerationofinvestor smaybeacompensating mechanismtochallengeandprotectinvestorsfromtherisksofapoorinstitutionalenvironmentandgover nance.Withsufficientagglomerationofinvestments,domesticand multinationalsfirmscancollaborateinanumberofformstoprotecttheirinvestments.Firms canshareknowledgeandinformationoftheinefficienciesofimplementationorpotentialcorruptionmec hanisms.Theycanjoinforcestolobbyforchangesingovernanceand regulations.Theycanusepublicpressuretotargetcorruptofficials.Weconcludethatthegreatertheagglo meration,thegreatertheabilityoffirmstocompensatefromthenegativeconsequencesofpoorgovernanc eandinstitutions.Thus,weofferthefollowinghypothesis.

H5aThe stronger the institutional environment, thegreater likelihood that Latin American citiesmayattractmoderateinvestmentsfromfastfoodnetworks under weak agglomerationconditions.
H5b The weaker the institutional environment, the lesser the likelihood that Latin American cities may attract investments from fast food networks under strong agglomeration conditions

Thereisempiricalevidenceofthepositive,negativeandcompensatingeffectsof agglomerationandinstitutionalquality.Inastudyoftheinvestmentlocationchoiceof19, 767firmsfromtheU.S.,Europe,JapanandKoreainChinabetween1993-2001,Duet.al(2008)foundevidenceofpositivereinforcementeffects.Theauthorsfoundthatregionswith higherhorizontalagglomeration,higherverticalagglomeration,andstrongerinstitutionsaremorelikely toattractinvestmentsfrommultinationals.Theyalsofoundthatmultinationals tendtoinvestinlocationswithconcentrationsfromfirmsfromthesamecountryandindustry. Asforcompensatingeffects,Duet.al(2008)foundhorizontalagglomerationeffectsacross firmsfromallnationalitiesinregionswithweakerinstitutions.Theauthorsadvancetheargumentsthatsu chagglomerationhelpsfirmsshareinformationandimprovetheircollectivebargainingpower.Onamor erefinedanalysisofinstitutionalquality,theauthorsfoundthatstronglocalgovernmentintervention(gre aterpropensityofcorruption)doesnotdeter multinationalsfromKoreaandJapan.Theauthorsoffertheexplanationthatsameculturalbackgroundsm ayallowmultinationalstobettermanageinstitutionalvoids.Theauthorsdidnotprovideanyconclusionre gardingnegativereinforcementastheirstudywasofactualinvestmentsinChina'sprovinces.Regionswi thnoFDIwerenotincludedinthestudy.

Method

DataforthisstudywasculledfromtwokeyreportsonLatinAmericancities'competitiveness forattracting investment. America Economia, a business and economics magazine, produces the report on the best Latin American cities to do business.AmericaEconomiaproducesanindex(ICUR)torankthetop50LatinAmericancitiesbasedonb asiceconomicindicators(CityGNP,PercapitaGNP,Unemployment,presenceofdevelopmentandcom mercialbanks,hotels,35majormultinationals,highereducationinstitutions, commercialrentspaceandcosts),institutionalindicators(perceptionofcitygovernance, personalandruleoflaw),qualityofcommercialservices,qualityofservicesforexecutives, infrastructurequality,humancapital,environmentalsustainabilityandcityreputation.

The ICUR report includes Miami. As this city is not part of Latin America, the final sample size consisted of 49 Latin American cities.

Thedependentvariableforthisstudyistheaggregation ofthestoresfor fastfoodnetworksinthe49cities.UsingGooglemaps,weidentifiedandcollectedthenumberofstoresfor McDonald'sandStarbucksstores.TheLatinAmericanregionalofficeforSubwayprovided thenumberstoresintheregion. Thus, the aggregation in thisstudyisbasedonthesethreewell-knownmultinationals.

Theindependentvariablesforthestudywereoperationalizedfromthenumberofindicators culledfromthetwocompetitivenessandinvestmentattractivenessreports.

HorizontalAgglomerationwasmeasuredby aggregation of the number of 35well-known multinationals,investmentbanksandglobalhotelchains as reported by America Economia.

Vertical Agglomeration. Four indicators of a city's capacity to facilitate forward and backward

vertical linkages measured Vertical Agglomeration. Thesefourindicatorswere thequalityofbusiness services,executiveservices,infrastructureandhumancapital.IntheAmericaEconomiareport,theseindicesarebasedona100-pointscale.Themeanofthefourindicatorswas usedasaproxyfor verticalagglomeration.

InstitutionalQuality was measured by thecity's PoliticalandSocialindexas reported by America Economia. This index measures is based on the assessment of thequalityofcitygovernance, personalsecurity,andjudicialfairness.

ControlVariables.
Asforcontrolvariables,wefocusedonthedemandsideoftheinvestmentdecision.As mentionedinthepreviousssection,marketsizeisamajordeterminantofthelocationchoiceforamarketseekingforeigndirectinvestment.Tocontrolfortheconfoundingeffectsof marketsizeandfleshouttheeffectsofagglomerationandinstitutionalqualityonthepresenceoffastfoodnetworks,weusedanindicatorofmarketpower.
AmericaEconomiaandtheINAIreportsproducedanumberofindicatorsofmarketpower.Thepotentialindicatorsin theAmericaEconomiareportincludedCityPopulation,CityGDP,andPercapitaGDP.[TheINAIreportincludesPercapitaGDPandCityGDPgrowthin2013].BothCityPopulation andCityGDPweresignificantandpositivelycorrelatedwiththetotalfastfoodnetworks (withCityGDP=.932;withCityPopulation=.908).CityGDPpercapitawaspositively correlatedwithtotalfastfoodnetworks(r=.297)butnotsignificant.Alloftheseindicatorsof sizewerepositivelycorrelatedwithagglomerationandinstitutionalenvironment.Weused the log of City Population asthebestestimatorofmarketdemand. Given that the range in City Population was large, the analysis used the log transformation of this metric. Given the small sample size, other control variables were not considered.

Results

Table1showsthedescriptivestatisticsforthesample. Figures 1 and 2 illustrates the geographical dispersion of the aggregate number of the three fast food units in the study as it relates to city population and buying power (gdp per capita). Figure 1 clearly showsthat the number of franchise units correlates with the population size but not as well with buying power. An independent graph (not included here) for each of the three fast food networks showed different spatial distribution patterns for Starbucks and the other two networks. Starbucks'distribution is concentrated in large cities with minimum presence in secondary cities. In contrast, McDonald's and Subway have penetrated secondary and tertiary cities in the region. As a note of clarification, Starbucks uses equity participation and joint ventures as its primary business model, in contrast to the franchising approach of the other two MNCs.

Thetotalsizeofthethreefastfoodnetworksinthestudyrangesfromahighof410inMexicoCityto1inSantaCruz, Bolivia.TheaverageGDPpercapitaalsoexhibitsabroadrangefromahighof$29,120 thousandinBrasiliatoalow$3,240inSantaCruz,Bolivia.TheHorizontalAggregationIndexisthehighestinMexicoCity(99)andthelowestinValparaiso,Chile(7).
TheVerticalAggregationIndexalsoshowssomevariancefromahighof86.38inMexico Citytoalowof41.70inSantaCruz,Bolivia.Theseresultssuggestthattheeconomicfactors

ofsupplyfavorMexicoCityasthemostattractivemarkettosetupefficientoperationsforfast foodnetworks.Ontheotherhand,basedonbuyingpower,Brasiliaisthenumberonechoice. Basedoninstitutionalquality,Montevideo,Uruguayexhibitsthebestconditionsfor investorswhereasCaracas,Venezuelaistheworst.Insum,thedescriptiveresultsdonotrevealalocationc hoicewherethemarket,supplyandinstitutionalconditionsare perfectly aligned.

Acursoryobservationoftheresultsleadsustoconcludethatfastfood multinationals'locationchoiceshouldbebasedoncarefulconsiderationsofthetrade-offs betweenfundamentaleconomicandmarketconditionsanddiverselevelsofinstitutionalquality.

Tounraveltheinteractionoftheseconditionsonthelocationchoiceoffastfood multinationals,weconductedananalysisofdirecteffectsofindicatorsofagglomeration (horizontalandvertical)andinstitutionalqualityandtheirinteractioneffectsonthenumberof fastfoodunitsforthe49LatinAmericancities.Thisarticlereportsonapreliminary analysisusingsimpleOLSregression to test the hypotheses. In addition, we use a contingency analysis to explore the interactive effects of institutional quality and agglomeration on the location of fast food franchises.

Asastart,thecorrelationmatrixshowninTable1revealsstrongandsignificantbivariatecorrelationsbet weenthetotalfastfoodnetworksandcity population, horizontalandverticalagglomerations ($p<.01$)andnon-significantcoefficientswiththeinstitutionalqualityvariable(PolSocInd). Inturn,city population has a strongand significant positive correlationwithhorizontal and verticalagglomeration($p<.01$)andweak and non- significant withinstitutional quality($p>.10$).Thetwoindicatorsofagglomerationaresignificantlyand positively correlated($p<0.01$).Thebivariatecorrelationbetweenverticalagglomerationandinstitutionalqualityis moderate (.45) and statisticallysignificant($p<.01$).Thestrongcorrelationoftheexplanatoryvariablespresentpotentialmult icollinearityissuesforaregressionanalysis.Acknowledgingthisconcern,weproceededtoassesstheext entofthisissuebyestimatingtheVariableInflationCoefficients,whicharereportedintheregression results.

Table2presentstheresultsofthe fixedeffectsonthetotalnumberoffastfoodchainsinacity controlling for population.The Table includes six regressions models.

Model1revealsthedirectimpactofhorizontalagglomeration.Thefitoftheregressionmodel1ishigh(adj ustedregressioncoefficientof.862)andsignificant($p<.01$).Inthismodel,thebeta coefficientforhorizontalaggregationispositive and highlysignificant($p<.01$)andtheVIF(2.4) is lessthanthe5.0, consideredtobeconservativesafe(Haieret.al,1995). Thecontrolvariable, city population, is positive and significant ($p<.05$). This result provides support to the first hypothesis (H1a) and shows the significant impact of horizontal agglomeration beyond the effects of city population.

Inmodel2,weanalyzethedirecteffects ofverticalaggregationthe total number of fast food chains. Themodelfitishigh(adjustedregressioncoefficient.743)andsignificant($p<.01$). Thebeta coefficientsforbothverticalaggregationand city population are positive and strongly significant($p<0.1$). This result provides support for H1b.

Model 3 shows the direct effect of institutional quality on the total number of fast food chains in a city, controlling for city population. The regression results show a good fit but mostly from the impact of the controlling variable (adjusted r-square=. 625). The effect of institutional quality is not significant and thus hypothesis H2 is rejected.

The following models 4,5 and 6 explore the direct effects on the dependent variable of combinations of two types of agglomeration and institutional quality and control variable taken. All of these models have a VIF coefficient less than 5 and thus collinearity is not considered an issue. Model 4 shows the impact of horizontal agglomeration and institutional quality. The results show a significant impact of horizontal agglomeration that was already found in model 1, providing further support to H1a. Model 5 finds a significant and positive impact of vertical aggregation on the aggregate of fast food restaurants in a city when institutional quality is included. Onepossibleinterpretationofthisresultisthatgiventhelevelofmarketdemand,thepresenceof strongsupplylinkagesmayoverrideanyconcernsaboutinstitutionalquality.This result furthers the support of H1b.

Thedirectimpactofinstitutionalqualityisexaminedinmodel5.Theresultsforboth directimpactmodels,withandwithoutcontrols,showthatinstitutionalqualitydoesnothaveasignificanti nfluence,independentofmarketsize,onthelocationchoiceoffastfoodnetworks.Thisresultsuggeststhat thegeographicdispersionoffastfoodnetworks seemstobedrivenmostlybyagglomerationeconomics.Thus,wedonotfindsupportforHypothesis2.

The full model of explanatory variables, model 6, reinforces the conclusion that agglomeration significantly influences the decision to locate fast food establishments and that institutional quality does not have a direct impact on the decision. The argument that institutional quality moderates the relationship of agglomeration and location of fast food establishments is explored next.

Theinteractiveeffectsofhorizontalandverticalagglomerationswithinstitutionalqualitywereintroduce dintheregressionanalysis.The significance of the coefficient of the interaction of agglomeration with institutional quality in these models tests hypotheses H3 and H4.Model7inTable3introducestheimpactoftheinteractionbetweenhorizontalagglomerationandinsti tutionalqualitycontrolledfor marketpower.Theadjustedr-squareofthismodelishigh(.881)andsignificant($p<0.01$).Thecoefficientofthedirecteffectsofhorizont alagglomerationissignificant($p<.01$)and positive.Theinteractiveterminmodel7issignificant ($p<.05$); the directeffectof institutionalquality is not.Thereliabilityofthesecoefficients,however,istemperedbyhigh multicollinearity(VIF,146.17).Thus,theanalysisofthedataprovides weaksupportfor HypothesesH3a and h4a.

Model8exploresthedirectandindirectimpactsofverticalaggregationwithinstitutionalqualityonlocati onchoice.The model fit is high and significant (adjusted r-square=. 736) but the degree of fit over the direct effects model decreases.Theintroductionoftheinteractivetermreducesthesignificanceoftheverticalagglomeration coefficient(Model4)tonotsignificant. The reliability of these coefficients is also tempered by the presence of high collinearity (VIF=98.3). Thus,itisnotclear

whetherverticalagglomerationmaycompensateforweakmarketconditions.Thus,wedo notfindsupportforHypotheses3b and 4b.

Finally,theanalysisofalldirectandindirectinteractionsinModel9showsagoodfit (adjusted r-square=. 873) and significant($p<0.01$).The fit is mostly driven by market size (population). Inthismodel,allother coefficientsarenotsignificantandmulticollinearity ishigh.Thus,wearenotabletomakeasummaryconclusionwhenalloftheexplanatoryand controlledvariablesareintroducedintheanalysis.

We use contingency analysis to explore the compensating conditions of hypothesis 5. Tables 4 and 5 show the mean number of fast food networks for different levels of institutional quality, horizontal aggregation and vertical aggregation respectively. The table shows that an improvement on institutional quality given a low level of horizontal aggregation increases the mean number of fast food networks from 17.64 to 19.30. Similarly, in cities where environmental quality is low, the mean number increases four times to 74.88. The incremental impact of increasing quality of institutional environment and horizontal aggregation is even more impressive as the mean rises to 102.6 from a low of 17.64. The statistical significance of these increments is however not significant (Lambda=. 191; $p>.10$) and hypothesis 5a is not supported.

A similar analysis is performed for the compensating conditions of vertical integration (See Table 5). The direction of incremental effects of an increase in quality of institutional environment and vertical integration seems to have a positive increase in the mean of fast food units. The contingency relationship is not statistically significant (Lambda =. 277; $p>10$). Hypothesis 5b is not supported.

Discussion

Thefastpenetrationofglobalfastfoodnetworksisagoodindicatorofglobalization.A relentlessprocessofurbanizationcoupledwithrisingincomesofglobalmiddleclassesarehavinganimpa ctontraditionalsocietiesandthusprovidingfundamentalmarketconditions forthespreadoffastfoodmultinationalsandtheirvaluepropositionofconvenientand affordablefoodforthemasses.
Thesemarketconditionsarepresentinthelargestglobalmetropolitanareasandthusitisnotsurprisingthat fastfoodmultinationalshavebeen
attractedtothesemarketsfirst.Furthermore,thesemultinationalsaremorelikelytofind availabilityoffoodandservicesuppliersinthesemajormetropolitanareas,thusderivingthebenefitsofag glomerationeconomics.Havingpresenceinthoselargemarketsalsooffers economiesofscale,astheselocationscansupportmanystoresservedfromcentrallocations.

Whatisunknownishowthemarket,agglomerationandinstitutionaldynamicsplayoutin secondaryandsmallercitiesworldwide.Asfastfoodmultinationalssaturatetheirprimary markets,theylooktosecondarymarketsforfurtherexpansion. Thesesecondaryandtertiary marketsdonothavethe
samefundamentalagglomerationconditionsoftheprimarymarketsnordotheyhavethemarketsizetosu pporteconomiesofscale.Iffurther
expansionoccurs,onewouldexpectthatthesemarketsmightsupportfewstores.

Theexpansionoffastfoodmultinationalsincitiesofemergingeconomiesisinfluencedby anotherimportantfactor:institutionalenvironments.Acombinationofbadgovernanceand weakinstitutionscreatesanexternalenvironmentthatincreasesthecostsofdoingbusiness andintroduceshighuncertaintyfortheoutcomesofanyinvestmentdecision.Thequalityof institutionalenvironmentsinemergingeconomiesis,however,nothomogeneous.Citieswith goodgovernanceandsoundinstitutionscanbefoundincountriescharacterizedbytheoppositecondition s.

Inthispaper,wearguedthatboththequalityoftheinstitutionalenvironmentand agglomerationeconomicsaretwoimportant factorsthatinfluencetheexpansionoffastfoodnetworks.

Theanalysisofthenumberoffastfoodunitsofthreewellknownmultinationalsin49Latin Americancitiesrevealsabroadrangeofsizesfrom1storeinasecondarycity(SantaCruz)of asmalleconomy(Bolivia)toahighof410unitsinoneofthelargestworldcities(Mexico City).Infact,wefoundastrongandsignificantpositivecorrelationbetweeneconomicsizemeasuredbyci tyGDPandCitypopulationwiththesizeoffastfoodnetworksbutnotwith buyingpower(measuredbyCityGDPpercapita). Clearly,citysizeisafactorexplainingthescaleofoperationsofmultinationalfastfoodnetworksintheregi on.

Whatisnotclear iswhichfactorsinfluencethescaleoffastfoodnetworksbetweenthesmallestandlargest. Ouranalysisrevealsthathorizontalagglomeration and to a lesser extent vertical integration are importantfactorsexplainingthelocationchoiceoffastfoodnetworksinLatinAmerica.Our analysis shows that their direct effects are significant after controlling for population size.

Wearguethatlocationchoicemaydependonpositive,negativeandreinforcingconditionsof theinteractionsofagglomerationandinstitutionalquality.Theclearexampleof reinforcementconditionsisSantiago Chile, with 122 fast food units. Santiago's size (6.6 million) is dwarfed by larger metropolitan markets in the region yet it manages to attract a disproportionate number of fast food franchises because of its stronginstitutional environment.Negativereinforcementconditionsincitiesthatlacktheagglomerationconditionsand poorinstitutionsmaynotbeattractivetofastfoodmultinationals.Anexampleofthelateris Asuncion, Paraguay with1 fastfoodstore (1Macdonald's).Compensatingconditionsarepresentincitieswithstrongmarketandagglomeration conditionsbutapoorinstitutionalenvironment,suchasCaracaswith64fastfoodretailstores. Caracas makes up for a poor institutional environment with a large aggregation of other firms.

Statistically, these compensatingconditionswerenotfound. Thisresultmayhavebeen maskedthesmallsamplesize.Alargersamplewithgreatervariationofcitysizemayhelp unravelthese interactions.

Theimplicationsfortheoryarethattheinvestmentlocationchoiceoffastfoodnetworksis drivenprincipallybyhorizontalagglomeration.Fastfood multinationalsseemtomitigatetherisksofweakinstitutionalenvironmentsandinefficientsupplylinkag es(verticalagglomeration)byco-locatingtheirstoresincitieswherethereis

somepresenceofothermultinationalsandfinancialinstitutions.

Thepolicyimplicationsareseveral.First,thepositivereinforcementsofagglomerationand stronginstitutionalenvironmentsareimportantfortheinvestmentlocationdecisionoffastfoodmultinationals.Citiesshouldattempttoattractinvestorsacrossabroadsectorof industriestoachievehorizontalagglomeration.Verticalagglomerationisnotasimportantbutsupportsthedecision.

Theanalysissuffersfromsamplesizelimitations.Statisticalsignificancecouldberevealed withalargersample.Althoughweareconfidentthattheindicatorsusedforagglomeration seemtohavefacevalidity,wethinkthatinstitutionalenvironmentbasedon asingleindicatormaynot.Themajorlimitationisthatmostindicatorsforinstitutionalenvironmentaredevelopedatthecountryratherthancitylevel.

Another limitation is the endogeneity of the relation between agglomeration and location of fast food networks. The decision to locate fast food restaurants increases agglomeration in itself. Thus, the agglomeration variable might be correlated with the error terms resulting in a bias in estimating the regression coefficient for the endogenous variable.

Furtheranalysisshouldattempttoincreasethesamplesize.Thiscanbeaccomplishedby addingcitiesfromotherregionswherefastfoodnetworkscontinuetogrow(Asia,Africa)or largecountries(China,India).Furtheranalyticaltoolsmaybeabletofleshoutmoreclearly theimpactoftheinteractionterms.Theanalysisofthispaperispreliminary,aswewantedto takeafirstlookattheissueofgeographicdispersionoffastfoodnetworksinaregion usingsimpleanalyticaltools.Ifwearesuccessfulinincreasingthesamplesizewiththeadditionofotherregions,weplantoanalyzethedatausingconditionallogitregressions.

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Figure 1
Total Franchised Units and City Population (log)

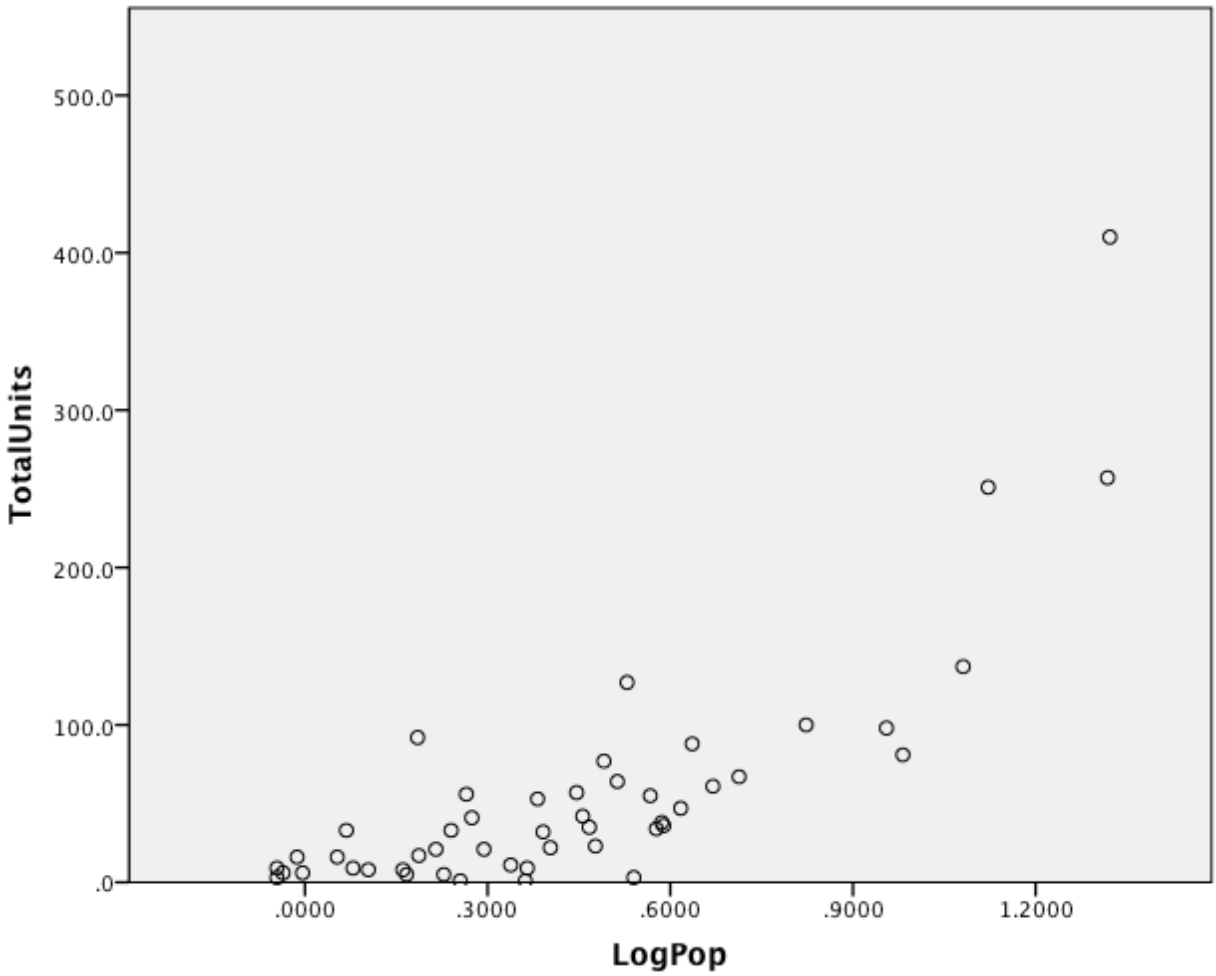
500.0
400.0
300.0
200.0
100.0
.0
TotalUnits
.0000
.3000
.6000
.9000
1.2000
LogPop

Figure 2

Total Franchised Units and City GDP per capita

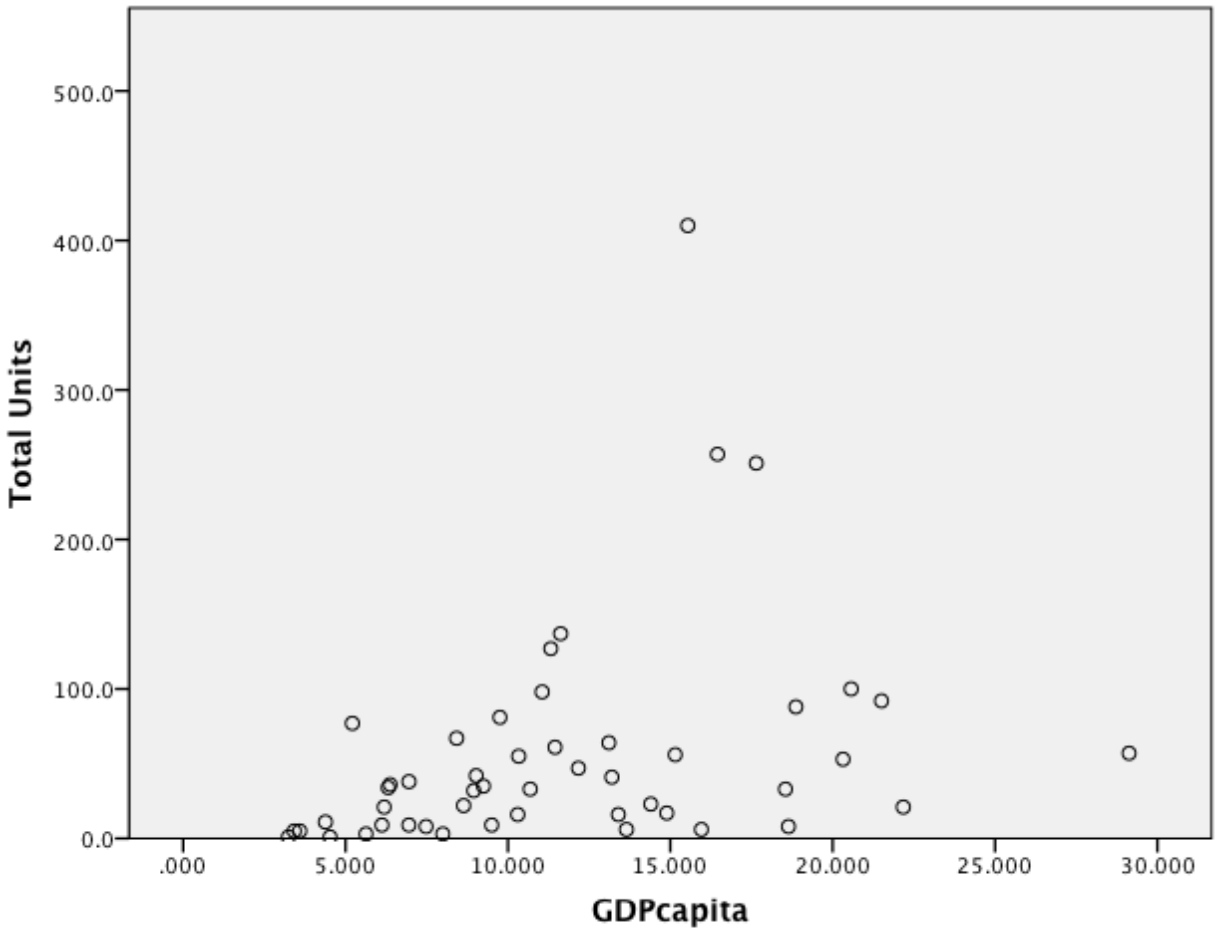

Table1
SampleStatistics

Variable	Unit	Mean	Minimum	Maximum	s.d.	Franchised Units	Log City Population	Horizontal Agglom.	Vertical Agglom.	Political Social Index
Franchised Units	Stores	56.37	1	410	75.7	1	.79**	.92**	.75**	.07
City Population	Logarithm	.43	-.04	1.32	.34		1	.77**	.61**	-.04
Horizontal Agglom.	Index	18.34	5	99	17.1			1	.79**	.10
Vertical Agglom.	Index	57.22	41.70	86.38	10.03				1	.45**
Political Social Index	Index	79.20	56.80	99.38	8.73					1

**p<0.01

Table2

DirectEffectsofAgglomerationandInstitutionalEnvironmentonL o c a t i o n o f FastFoodNetworks

Variable	Model 1	Model 2	Model 3	Model4	Model5	Model6
Horizontal Agglom.	.76**			.75**		0.715**
Vertical Agglom.		.42**			.53**	0.06
Political Social Index			.10	.003	-.14	-0.02
City Population	.21*	.53**	.79**	.213*	.46**	.20*
AdjustedR2	.862**	.743**	.625**	.858**	.739	.85**
VIF(average)	2.44	1.59	1.00	2.04	2.01	3.32

**p<.01

Table3
InteractiveEffectsofAgglomerationandInstitutionalEnvironmentson Location ofFastFoodNetworks

Variable	Model4	Model5	Model6?
Horizontal Agglom.	2.72**		1.94
Vertical Agglom.		.99	1.11
Political Social Index	.22	.12	.77
Hagglom*PolSci	-2.00*		-1.19
Vagglom*PolSci		-.63	-1.49
Log Population	0.21*	.45**	.16*
AdjustedR2	.881**	.736**	.873**
VIF(average)	146.0	98.3	212.53

**** p<.01**
***p<.05**

Table 4
Contingency Effects of Horizontal Agglomeration and Institutions on Location of Fast Food Networks

Institutional Quality	Horizontal Aggregation					
	Low		High		Total	
	N	Mean Fast Food Units	N	Mean Fast Food Units	N	Mean Fast Food Units
High	10	19.30	16	102.6	26	70.57
Low	14	17.64	9	71.10	23	38.56
Total	24	18.33	25	91.28	49	55.55

Table 5
Contingency Effects of Vertical Agglomeration and Institutions on Location of Fast Food Networks

Institutional Quality	Vertical Aggregation					
	Low		High		Total	
	N	Mean	N	Mean	N	Mean
High	9	40.75	17	94.68	26	70.57
Low	15	15.21	8	74.88	23	38.56
Total	24	25.66	25	84.24	49	55.55

Appendix 1- LatinAmericanFastFoodMarketSizeandGrowth

Country	ConsumerFoodServiceMarket2011LocalCurrency	ConsumerFoodServiceMarket2011US$bn*	FastFoodMarketSize2011	AnnualGrowth2012/2011%	TotalOutlets	ChainedOutlets	ChainedFastFood	% Chained/Total	%FastFood/Chained
Argentina	ARS85.1	19.8	ARS10.2 bn=$2.3**	13	67963	5618	3637	8.2	64.7
Brazil	R$251	144	21.7**	11	978006	16235	10259	1.6	63.1
Chile	CLP3051 bn	5.8	n.a.	13.5	22648	1830	1033	8.0	56.4
Colombia	COL$24.9 trillion	1.3	n.a.	9.8	57107	2437	1618	4.2	66.3
Mexico	MP651.3	57	MP84.4=$6.5***	3.3	799446	26055	2665	3.2	10.2

*Exchangeratesforselectivecountriesfromhttp://www.irs.gov/Individuals/International---Taxpayers/Yearly---Average---Currency---Exchange---Rates

**Chainedoutlets

***FastFoodOnly

Source:EuromonitorInternational2012.