

Regional and Inter-Regional Trade Agreements: Examining their Role for the Middle East

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The Middle East is at a crossroads in terms of the process of globalization. A few countries in the region – such as the United Arab Emirates (UAE) – are ranked among those with the highest per capita income in the world and enjoy extensive international trade, investment and migration compared to the rest of the world. Unlike most countries in the Middle East, UAE trade is extensive, although it remains at about 85 percent below its “potential” (an estimate that will be presented below). The UAE requires fewer signatures on export and import documentation than most other Middle East countries, has delivery times that are among the shortest in the world, and has infrastructure for international trade that rivals that of large industrialized countries.¹ The UAE’s overall ranking in facilitating international trade is the 73rd percentile, above the 47th percentile average for all Middle East and North African (MENA) countries.² Policy makers in the UAE are highly sensitive to the process of globalization, being strong proponents of the continued development and strengthening of the Gulf Cooperation Council (GCC), including the GCC’s planned emergence into a customs union; negotiation of a free trade agreement (FTA) between the GCC and the European Union (EU);

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negotiation of a UAE FTA with the United States; and membership of the World Trade Organization (WTO).

By contrast, many other countries in the Middle East are isolated from the process of globalization and focus instead on internal strategies for development. As a consequence, they continue to fall behind in raising standards of living relative to countries that are highly interconnected with the world economy. For example, Syria ranks in the 11th percentile in trade facilitation measures by the World Bank, Iran ranks 18th and Algeria ranks 35th.³ Not surprisingly, all three countries trade well below their “potentials” and many MENA countries trade at half of what standard trade models would predict—most likely due to extensive barriers to trade.⁴ Even Oman and Qatar trade considerably less than their respective potentials relative to the EU.⁵ Moreover, Iran has no economic integration agreements with other countries, near or far, and is not a member of the WTO.

This paper examines conceptually and empirically the role of trade agreements – such as FTAs – in facilitating globalization and providing potential opportunities for countries to develop further and raise their standards of living, especially in the Middle East.

The discussion is structured around four themes; first, in order to focus the discussion, we offer a concise and tractable definition of “globalization.” While much anecdotal evidence indicates that globalization is progressing, we step back and try to take a “bird’s-eye view” of how inter-connected the world really is and argue that, while globalization *has* advanced, the world still has a considerable way to go before it becomes “flat”—to use Thomas Friedman’s metaphor. In particular, we will examine how “flat” the world is from the perspective of international trade flows.

Second, the growth in the number of parties to the WTO (currently 150) and the more modest declines in countries’ non-tariff barriers to international trade (relative to tariffs due to more difficulty in lowering

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non-tariff barriers) have lowered the *relative* economic and political costs of forming bilateral and regional – and perhaps even inter-regional – trade agreements. The number of FTAs has exploded, and at a pace rivaling that of the speed of globalization itself. There exists an intricate and seemingly chaotic web – the so-called “spaghetti bowl” – of bilateral, regional and inter-regional FTAs in the Americas and Asia. We will argue that this has created not a “spaghetti bowl” of FTAs but rather a *market* for trade agreements. FTAs – like trade flows – are likely determined under competitive conditions (so-called “competitive liberalization”) and recent empirical evidence now shows they can be well predicted based on countries’ economic characteristics.

Third, having now experienced 50 years of FTA formation throughout the world and with the development of better statistical techniques, policy makers can examine with actual data the *ex post* gains from economic integration agreements (EIAs). Evidence indicates that the gains from FTAs are much larger than economists’ *ex ante* analyses (using “computable general equilibrium models”) previously have suggested. We discuss what we conjecture is the *first ex post evidence* of the impact of the GCC’s free trade agreement on the member nations’ trade, and compare these estimates to those for FTAs in other parts of the world (estimated using similar techniques).

Finally, the paper concludes by arguing that the worldwide “market” for FTAs is now a fact and the market will likely continue to grow in step with globalization. Regions of the world that have not – and will not – form economically-rationalized FTAs and participate in this market will likely lose in relative economic terms, continuing to suffer from falls in relative per capita income and experiencing increased economic and political instability. We address the plausibility of broadening economic integration within the wider Middle East, a potential FTA between the GCC and the European Union, and potential FTAs between the GCC countries and the United States.

Globalization

The starting point is first to define the term "globalization." Thomas Friedman's book *The World is Flat* has widened the world's understanding of the breadth and prevalence of globalization. The term globalization is widely used, but often has different interpretations. The view taken here is that – put as simply as is possible – globalization is the process of "increasing interaction" among people of different nations.⁶

How does one define interaction? In our view, an interaction requires a "flow." For instance, one of the most common measures of international interaction is the flow of goods (or services) from one country (*i*) to another country (*j*). These are commonly called "trade flows." While a trade flow is not a direct interaction between two nations' peoples, it is an indirect one; it is a proxy for the time and resources of the people of one nation (*i*, using the services of their labor, human capital, physical capital and/or natural resource endowments) to produce a product and sell it to another nation's people (*j*) where the product is valued (in economic terms, the product provides "utility" to the consumers or is useful as an intermediate in production by firms in *j*). Thus, an important component of globalization is increased international trade flows. Certainly, the increased share of nations' gross domestic products (GDPs) since World War II that are being exported and imported internationally is evidence of globalization.

However, globalization is much wider in scope than simply increased international trade. The people of different nations can exchange claims to wealth in the form of international investment flows. When a multinational firm owned by people in nation *i* uses its human and/or physical capital in nation *j* to set up an affiliated plant and to produce goods (or services) in nation *j*, this foreign direct investment flow from *i* to *j* is a measure of globalization. Similarly, portfolio investment flows of financial capital from country *i* to country *j* are an international interaction of the people of different nations.

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A more direct interaction of two nations' peoples is a migration flow from *i* to *j*. This physical flow of people has numerous potential motivations, ranging from family reasons to economic and political reasons. Economists often find one of the major motives for migration is a higher relative wage or income in the destination country relative to the country of origin. Migration flows – as a percent of countries' GDPs – tend to be much lower than trade and investment flows because the cost of the flow (the migration) is much higher than that of international trade and investment. However, despite the high immediate costs that an individual faces when migrating to another country, once in the new host nation that individual can potentially benefit from years of relative economic gains.

Globalization, however, goes beyond just the traditional international economic flows of goods, services, capital and labor. Globalization encompasses flows of culture, values and information (through electronic or non-electronic "flows"). Increased globalization is simply an increased volume of international interactions of innumerable types. Thomas Friedman has argued that the reduced cost of international exchanges and flows of goods, services, labor, capital, culture, values, information, etc., due to falling "natural" barriers to such flows (non policy-related barriers such as the usage of resources to actually transport a product from country *i* to country *j*), as well as reduced policy-related barriers (such as tariffs), have increased such interactions and consequently made the world "flat."

Is the World "Flat"?

A comprehensive analysis of the innumerable declines in barriers that have enabled the advance of globalization is beyond the scope of this paper and would form the potential subject of an entire book, or books. However, for the broad audience that Thomas Friedman's *The World is Flat* was intended to address, his title provides extensive and persuasive anecdotes that suggest that the barriers to the international exchange of goods, services, capital, labor, culture, information, etc., have likely

declined substantially, and such declines are important – if not the primary – determinants of globalization’s advance.

Since this paper concerns regional and inter-regional trade agreements, we must narrow our scope to international trade only. Throughout this analysis, we use the terms “natural” barriers and “policy-related” barriers to trade, and therefore offer some clarification. These two terms are intended to be exhaustive; for instance, we could have used the terms “natural” and “unnatural” (or “man-made”) to emphasize that all barriers fall into one category or the other. However, “policy-related” more aptly describes the “man-made” barriers to trade. “Natural barriers to trade” refer more precisely to costs that firms (or households) incur to ship goods (or services) from where they were produced to where they are consumed. In almost all cases, these trade costs require “factors to production” (labor, physical capital and/or human capital) to transport goods; in the absence of these barriers more products could flow across borders, lowering transaction costs, and raising consumer welfare even further. Distance is an enormously important factor deterring trade and constitutes one such “natural” trade barrier, raising both the costs to transport goods as well as to even locate them (i.e., informational trade costs). “Policy-related” barriers to trade refer to government policies that create an additional “cost” of international trade. Tariffs imposed by governments on imports are a classic example. However, non-tariff barriers imposed by governments in many cases can have as great an effect – more so in some cases – as tariffs in reducing international exchanges.

Friedman’s book argues that the decline in these two types of barrier has contributed to making the world – in economic terms – virtually flat. His argument suggests that these barriers have now become so trivial that international interaction is virtually costless; that is, international exchange is “frictionless.”⁷ While two of this paper’s authors have argued previously that both types of barriers have declined dramatically in the post-World War II period and the world has become flatter,⁸ we argue

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here that the world is still far from “flat” or “frictionless” in an *absolute* sense. Despite falling transport costs, natural barriers to trade are still not trivial. Despite lower world tariff rates, policy-related barriers to trade are also still not trivial. In fact, in one recent seminal article in the literature on international trade, Anderson and van Wincoop argue that the additional cost to trade the typical good between a producer in one country and a consumer in another (including natural and policy-related barriers) is on average 170 percent of the cost of producing the good.⁹ That is, the final cost to a consumer in a final destination of a typical product is almost three times the price at which the producer sold it on the market in the country of origin. A recent paper supporting these arguments is Brakman and van Marrewijk.¹⁰

Moreover, we will show that an economy such as the United States, which produces 25 percent of the world’s GDP, should – in a frictionless world – export and import 75 percent of its GDP. However, the United States exports and imports only 15 percent of its GDP, considerably less than it should in a frictionless world. In a more comprehensive study, Eaton and Kortum provide evidence that the world is far from operating in a setting with no frictions (i.e., a “zero-gravity” economy), adding that the world is likely closer to autarky (i.e., a world of trade barriers that prohibit trade), which hardly suggests a flat world yet.¹¹ More importantly, however, it suggests that there remains considerable room to further lower natural and policy-related barriers to trade.

Determinants of International Trade Flows

In order to understand the growth in the number of regional and inter-regional FTAs in the world economy, one must first understand the determinants of international trade flows—a major factor in globalization. First, we discuss the economic factors that influence international trade flows. By analyzing empirically what determines trade flows between countries, we can ascertain countries’ “potential” trade flows, and then

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compare these against their actual trade flows. Using the model to predict (potential) trade flows, it suggests for certain countries that “difficult-to-quantify” non-tariff barriers can help explain why numerous countries trade below their potential. Moreover, this explanation further helps us to understand what we believe is a *major rationale* for the growth in regional and inter-regional trade agreements.

The modern theory of international trade usually emphasizes that the main economic rationale for international trade is the “Law of Comparative Advantage,” i.e., nations gain by producing goods at relatively low costs and exchanging their products for different goods produced by others at relatively low costs. Therefore, mutually beneficial exchange is possible whenever relative production costs differ prior to trade. For instance, both the UAE and the EU benefit from the UAE specializing in the production of oil (and natural gas) and the EU specializing in the production of manufactures (their respective “comparative advantages”), and the UAE trading oil for manufactures and the EU trading manufactures for oil. This is called *inter-industry trade*. Clearly, both the UAE (and other GCC countries) and the EU could potentially benefit from liberalizing fully their trade policies relative to each other—that is, an EU–GCC free trade agreement. Such a FTA would help both countries to expand upon current production and consumption opportunities. Economists have constructed detailed numerical models of world economies to further predict by what percent trade, national outputs, and consumption levels might increase from such agreements. However, these *ex ante* estimates are typically quite small, an issue to which we will return.¹²

While the Law of Comparative Advantage is very useful to understand trade flows between GCC countries and either the EU or the United States, will it work well to explain the largest trade flows in the world, that is, aggregate trade flows between the EU and the United States? Treating the EU as a “country,” the EU and United States have very similar industrial structures, very similar technologies, and very similar

relative factor endowments (both are relatively abundant in human and physical capital, and relatively scarce in unskilled labor), especially prior to the expansion of the EU from 15 to 27 countries. Why should they trade?

The main type of trade between the EU and the United States is *intra-industry trade*, i.e., the exchange of products belonging to the same industry. The primary motivation for such trade is that consumers in any country have a taste for the "varieties" of goods they consume. If two similar countries (in terms of tastes, technologies, and relative factor endowments) can produce different varieties of the same "good" under economies of scale (that is, lower average production costs with larger production volumes), they can each specialize their production, trade their different varieties with each other, leaving both countries better off.¹³ For example, Boeing and Airbus both require large plant setups and incur economies of scale in production. Each jet is produced in one country, but both firms sell their slightly differentiated jets in both markets. More variety enhances welfare, either for final consumption goods or intermediate products for producers.

Both sources of trade can be captured empirically in one simple (statistical regression) equation that has come to be called the "gravity equation" in international trade, owing to its similarity to Newton's "Law of Gravitation." A representative gravity equation in international trade is:

$$(1) \quad X_{ijt} = \beta_0 (GDP_{it})^\alpha (GDP_{jt})^\alpha (|RFE_{ijt}|)^\alpha (tc_{ijt})^{1-\sigma} (P_{it}^{\sigma-1} P_{jt}^{\sigma-1}) \epsilon_{ijt}$$

where X_{ijt} is the real value (in constant prices) of the merchandise trade flow from exporter i to importer j in year t ; GDP_{it} (or GDP_{jt}) is the level of real gross domestic product in country i (or j) in year t ; $|RFE_{ijt}|$ is the absolute value of the difference in relative factor endowments of countries i and j in year t ; tc_{ijt} is a variable (or set of variables) representing any natural or policy-related barrier (or "trade cost") between countries i and j in year t ; P_{it} and P_{jt} are "multilateral" price terms that account for trade costs that agents in countries i and j face from all (N) countries (including at home);

and ε_{ij} is assumed to be a log-normally distributed error term. The theory suggests that $\alpha > 0$ and $\sigma > 1$, so that $\sigma - 1 > 0$.

Equation (1) allows aggregate trade from country i to country j to be influenced by both intra- and inter-industry trade. As shown in Helpman and Krugman, in a frictionless world with N countries and identical relative factor endowments, the trade flow from i to j will be determined *uniquely* by the product of their GDPs; both the economic size and *size similarity* determine the volume of trade from i to j .¹⁴ This explains the vast bulk of trade between, say, the EU and the United States. The theory suggests that the coefficient estimates for GDPs should be unity. Equation (1) also allows for inter-industry (Comparative Advantage) trade, influenced by relative factor endowments. This explains the large amount of trade between the GCC and the EU and between the GCC and the United States, with $|RFE_{ijt}| > 0$. Natural and policy-related trade barriers influence trade flows via two channels. One channel is the bilateral trade cost (tc_{ijt}); lower bilateral trade barriers increase bilateral trade. But the bilateral trade flow from i to j can be reduced if any relevant factor lowers the overall “multilateral” price terms in either i or j ; ($P_i^{\sigma-1} P_j^{\sigma-1}$). P_i (or P_j) is an index of the overall multilateral level of resistance that country i (or j) faces. For a given bilateral trade cost (tc_{ijt}), a fall in overall multilateral (price) resistance for country i (P_i) will tend to raise the relative price of goods from i to j , thus tending to reduce the flow from i to j . A detailed analysis of the theoretical foundations for a properly-specified gravity equation are found in Anderson and van Wincoop and Baier and Bergstrand.¹⁵ In econometric work that follows, we will not need to measure P_i and P_j , as we will control for variation in these factors using binary country-time (it, jt) dummy variables.

Estimation of equation (1) using cross-section or pooled cross-section time-series (i.e., panel) data requires data on trade costs (tc_{ijt}) for every pair of countries. Several studies have found a fairly large number of economic variables that influence tc_{ijt} , cf., Rose (2004). Several of the variables do not vary over time (i.e., “time-invariant” factors), such as

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bilateral distance between the countries, the product of their land areas, and binary (dummy) variables representing the presence or absence of a common land border, common language, or common colonizing country, cf., Rose (2004). However, other variables influencing tc_{ijt} vary across country pairs ij and across time (t), such as the presence or absence of a free trade agreement, a currency union, or common membership in the General Agreement on Tariffs and Trade (GATT)/WTO.

Equation (2) below is a gravity equation estimated using trade flows among 103 countries in the world using the most important variables typically used:

$$(2) \quad \ln (X_{ijt} / GDP_{it} GDP_{jt}) = \\ \beta_0 + \beta_1 |K/L_i - K/L_j| + \beta_2 (\ln DIST_{ij}) + \beta_3 (ADJ_{ij}) + \beta_4 (LANG_{ij}) + \beta_5 (FTA_{ijt}) \\ + a_{it} + c_{jt} + \varepsilon_{ijt}$$

where $|K/L_i - K/L_j|$ is the absolute value of the difference in capital-labor ratios of the two countries and the variables representing trade costs (tc_{ijt}) include *time-invariant* (logarithm of) bilateral distance ($\ln DIST_{ij}$), a dummy variable for adjacency (ADJ_{ij}) which assumes the value 1 (or 0) if the two countries share (or do not share) a common border, and a dummy variable for language ($LANG_{ij}$) which assumes the value 1 (or 0) if the two countries share (or do not share) a common language, and a *time-varying* dummy variable for the presence or absence of a free trade agreement (FTA_{ijt}) which assumes the value 1 (or 0) if the two countries share (or do not share) a FTA. Variables a_{it} and c_{jt} are country-time fixed effects to account for variation in the theoretically-motivated time-varying multilateral price resistance terms P_{it} and P_{jt} . The parameters denoted by β will be termed "coefficient estimates."

We provide representative cross-sectional estimates of variables' coefficient estimates for two years, 1970 and 2000, for reasons that will be discussed in detail later.*

* Note that below each coefficient estimate is the estimate's t-statistic in parentheses.

1970:

$$(3) \ln (X_{ijt} / GDP_{it} GDP_{jt}) = -12.49 + 0.000006 |K_i / L_i - K_j / L_j|$$

(-8.25) (2.75)

$$- 0.89(\ln DIST_{ij}) + 0.35(ADJ_{ij}) + 0.84(LANG_{ij}) + 0.61(FTA_{ijt}) + a_{it} + c_{jt} + \varepsilon_{ijt}$$

(-21.58) (2.38) (8.33) (3.27)

Within $R^2 = 0.43$; RMSE = 1.5025; number of observations = 4030

2000:

$$(4) \ln (X_{ijt} / GDP_{it} GDP_{jt}) = -12.76 + 0.000004 |K_i / L_i - K_j / L_j|$$

(-27.18) (3.12)

$$- 1.46(\ln DIST_{ij}) + 0.59(ADJ_{ij}) + 0.97(LANG_{ij}) - 0.14(FTA_{ijt}) + a_{it} + c_{jt} + \varepsilon_{ijt}$$

(-35.79) (4.09) (9.78) (-1.36)

Within $R^2 = 0.38$; RMSE = 1.7851; number of observations = 7302

Three important results are worth noting. First, the coefficient estimates for the time-invariant trade cost variables are signed as expected; distance has a negative effect on trade and sharing a common land border (language) raises trade. Interestingly, distance has an even *larger* (more negative) effect on trade in 2000 relative to 1970. Second, the presence of a FTA has an economically and statistically significant positive (partial) effect on two members' bilateral trade in 1970, but an economically and statistically insignificant effect in 2000. The 1970 FTA coefficient estimate suggests that trade agreements that existed by 1970 – notably, the European Economic Community (EEC), European Free Trade Association (EFTA), Central American Common Market (CACM), and Caribbean Free Trade Agreement (CARIFTA) – had on average *doubled* two representative members' international trade.¹⁶ This result is quite plausible. However, the year 2000 results suggest that – even though there were at least 200 trade agreements in the world by 2000 – the effect of a FTA was *negligible*. This result seems implausible. Third, relative factor endowments have the expected positive effect on the ratio of trade relative

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to GDPs. This agrees with the fact that differences in relative factor endowments generate inter-industry trade, due to comparative advantage.

Following Baier and Bergstrand, we argue that the coefficient estimate for *FTA* in 2000 is biased downward because of the endogenous self-selection of countries into FTAs, the so-called "competitive liberalization" of countries' trade policies in the world due to the onslaught of globalization.¹⁷ The *FTA* coefficient estimate for 1970 is credible because the EEC, EFTA, etc. were formed for exogenous reasons; for example, the EEC was formed for political and security reasons in the post-World War II era. However, since 1970, competitive liberalization among countries makes inferences about the *ex post* effects of FTAs more difficult to uncover. We now address why.

Understanding the Causes and Consequences of the Growth of Regionalism

International economists have long argued on behalf of the benefits of globalization, most often in the context of the benefits of specialization arising from reducing trade barriers and enhancing international trade. For instance, most economists argue that reduced trade barriers will allow countries to either specialize production in those products for which they have a natural comparative advantage (either in terms of a relative productivity advantage or a relative factor endowment advantage, such as oil in the UAE) or an "acquired" comparative advantage (products in which the countries' firms incurred fixed setup costs and experience economies of scale in production, such as aircraft in the United States). The main argument is that reduced trade barriers will enhance production specialization within countries, trade between countries, and therefore the per capita incomes of all countries involved (all other things being constant). The latter is the main argument for globalization.

While such reasons argue for reducing trade barriers, they do not explain why governments have increasingly pursued regional and inter-

regional trade agreements and foregone emphasis on multilateral trade liberalization. As economists have long argued, preferential (regional and inter-regional) trade agreements by definition exclude some countries, therefore “creating trade” but also “diverting trade” from other producers, and can potentially reduce welfare for participating members. By contrast, multilateral liberalization is nondiscriminatory, and as such does not create that risk. So why pursue preferential trade agreements?

Two prominent reasons have surfaced over the decades. While the GATT has been successful in lowering world tariffs dramatically since World War II and creating trade without “diverting” trade, the relative costs of further multilateral liberalization under the WTO have become very large. The first reason for this is that the number of parties (150) is now more than six times that of the first round of tariff cuts under the GATT in 1947 (23). This has made the costs of negotiation under one umbrella that requires consensus almost prohibitive.

The second reason is that the first eight rounds of GATT reductions focused on reducing the readily observable and easily quantifiable tariff rates. This made coordination of negotiations transparent and accountable. However, this was the easy part. Robert Lawrence distinguishes between “international policies” that deal with border barriers, such as tariffs, and “domestic policies” that are concerned with everything “behind the nation’s borders, such as competition and antitrust rules, corporate governance, product standards, worker safety, regulation and supervision of financial institutions, environmental protection, tax codes ...” and other national issues.¹⁸ The GATT and WTO have been remarkably effective in the post-World War II era in reducing border barriers such as tariffs. However, these institutions have been much less effective in liberalizing the domestic policies named above. As Lawrence states, “Once tariffs are removed, complex problems remain because of differing regulatory policies among nations.”¹⁹ He argues that in many cases, FTA “agreements are also meant to achieve deeper integration of international

competition and investment.”²⁰ Gilpin echoes this argument: “Yet, the inability to agree on international rules or to increase international cooperation in this area has contributed to the development of both managed trade *and regional arrangements*.”²¹ Preeg notes:

[Free] trade agreements over time, however, have tended to include a broader and broader scope of other trade-related policies. This trend is a reflection, in part, of the fact that as border restrictions [tariffs] are reduced or eliminated, other policies become relatively more important in influencing trade flows and thus need to be assimilated in the trade relationship.²²

Richard Baldwin²³ and C. Fred Bergsten²⁴ noted more than a decade ago that there were seemingly strong competitive pressures in the world economy – sensed by nations’ governments – that induced governments to liberalize trade both bilaterally and regionally. Governments are pressured by individual voters and firms’ lobbies to provide a framework of policies well-suited to both constituencies’ interests (maximizing economic welfare and economic profits, respectively). In the face of these pressures and an impasse in multilateral trade and investment liberalization at the WTO level, governments have sought alternative policy changes to improve economic welfare and firms’ profits. One alternative – potentially a “building block” for further multilateral liberalization – is regional economic integration agreements (which include bilateral agreements). As mentioned earlier, the proliferation of EIAs over the past fifty years has created what economists refer to as a “spaghetti bowl” of EIAs.

However, the metaphor of a “spaghetti bowl” may be a misleading one, as it suggests that the web of arrangements arose randomly. This could not be further from the truth. As Baier and Bergstrand noted, the determinants of FTAs can be explained theoretically and empirically by a small handful of economic variables and are consistent with the notion of “competitive liberalization” by nations’ governments.²⁵ Pairs of countries (theoretically and empirically) tend to form FTAs the larger and more similar their economic size (GDP), the closer they are to each other, the more remote the two countries are from the rest of the world, and the

greater their relative factor endowment differences from each other.²⁶ However, closer inspection reveals that these are the same factors that determine countries' bilateral trade flows, as discussed in the previous section. Thus, we have systematic evidence that pairs of countries that enter into free trade agreements are countries that trade extensively anyway, which limits the amount of trade diversion from non-member countries. The empirical model predicts correctly 85 percent of the 286 FTAs among pairings of 54 countries in 1996, and 97 percent of the remaining 1,145 country pairs with no FTAs. On net, this suggests that countries that select free trade agreements have "chosen well."

While Baier and Bergstrand provide some guidance for determining which pairs of countries' "bilateralism" (in terms of FTAs) has been "excessive" and which pairs' has been insufficient, an interesting question arises as to whether the proposed FTA between the GCC and the EU would be – in the context of Baier and Bergstrand – "excessive." Moreover, what about a FTA between the GCC and the United States? Are the economic and geographic characteristics of these pairs of economic entities such that – in the context of the theory and empirical model – a FTA would be a "good choice"? We will address this in the final section of the paper.

Ex Post Evaluation of FTAs

The logic behind the argument for trade liberalization is now well accepted in many – if not most – regions of the world. However, while the theory behind the benefits of international trade is well known and widely accepted, quantitative support for large trade, output and welfare effects from trade liberalization is still limited. First, the standard approach to quantifying, *ex ante*, the trade, output and welfare gains from trade liberalization are numerical versions of "general equilibrium" models of economies, such as Purdue University's "Global Trade Analysis Project (GTAP) Model" and the University of Michigan's "Michigan Model."

DeRosa and Gilbert recently summarized some typical predicted trade estimates from implementation of the North American Free Trade Agreement (NAFTA) and South America's Mercado Comun del Sur (Mercosur) using the GTAP model. DeRosa and Gilbert find that this model (arguably) has tended to *underpredict* considerably the trade effects of these two FTAs; such results are common.²⁷

As discussed above, *ex post* estimates of the trade effects of FTAs can often be implausibly small. While our results for 1970 are quite plausible, the results for 2000 are implausibly small, given the enormous growth of regional and inter-regional FTAs over the past two decades. Similarly small or theoretically implausible results have been found using more systematic techniques.²⁸ The natural question to ask is: If the trade effects are so small, why do countries' governments pursue these trade agreements?

Empirical evidence supporting the welfare gains from increasing trade is not very well established. The lack of empirical support for the benefits of trade can be categorized along two lines. First, there is the looming methodological issue in social science of how to actually quantify, *ex post*, the effects of trade-barrier reductions on trade flows, and then the effects of more trade on per capita incomes. Unlike the natural sciences where researchers can conduct "controlled" experiments, social scientists face the problem of identifying the "counterfactual." For example, trade among the six GCC members before 1983 (the year the GCC FTA went into effect) can be measured. Also, trade among the GCC countries after 1983 can be measured. On average, trade increased across country pairs between the two periods. However, that is not necessarily due to the formation of the GCC. The dilemma is that one cannot ever measure *either* pre-1983 trade among GCC countries *in the presence* of the GCC FTA (counterfactual #1), or post-1983 trade among the GCC countries *in the absence* of the GCC FTA (counterfactual #2). The difference between either actual pre-1983 trade and counterfactual #1, or between actual post-1983 trade and counterfactual #2, would provide an estimate of the "effect" of the FTA on members' trade. So

the standing methodological dilemma is generating a credible “counterfactual” (a standing issue for *ex post* policy evaluation in any of the social sciences). This issue is behind the seemingly low value of the *FTA* coefficient in equation (4) in the previous section.

The solution then for the first problem (the second problem will be identified shortly) is to try to motivate, ideally based upon sound theory, a *credible* empirical counterfactual. This is where theoretical foundations for the gravity equation surface as important. The gravity equation provides a theoretically-rationalized model for predicting trade flows. Moreover, it works extremely well empirically. In general, R^2 values range from 70–90 percent ($R^2 = 100$ percent implies that the model predicts all bilateral trade flows *exactly*). In fact, applying the model to the UAE’s (non-zero) trade flows with more than 100 countries, the R^2 between actual and predicted trade flows was 95 percent.

The second issue is that the *FTA* variable may be endogenous in equations (3) or (4). As discussed earlier, the country pairs that have selected FTAs have “chosen well,” in the sense that the economic characteristics that explain FTA_{ijt} also explain trade flows. This raises problems for estimating the “effect” of FTA_{ijt} on X_{ijt} . We believe that this is not a problem for cross-section estimates for 1970 or earlier because competitive liberalization was not present before 1973. By many accounts, the original European Economic Community (EEC) was formed in 1957 for national security (i.e., Cold War) reasons and to secure positive political relations between France and Germany; these are exogenous reasons. The formations of the Central American Common Market (CACM) in 1961 and the Caribbean Free Trade Association (CARIFTA) in 1966 were not endogenous events either, since both regions are remote from Europe. The only agreement that was arguably endogenously created was the European Free Trade Association (EFTA), created in 1961 largely in response to the EEC (for countries that wanted to maintain political independence). Consequently, it is reasonable to argue that the coefficient estimate for *FTA* in 1970 was an unbiased

estimate of the "average treatment effect" of a FTA on members' trade; an estimate of 0.61 implies that a FTA increased trade by 86 percent ($e^{0.61} = 1.84$) or roughly 6 percent per year (over 10 years).

However, the cross-section coefficient estimate for *FTA* in 2000 was negative. Did membership in a FTA actually *decrease* two members' trade? This seems unlikely. We argue that this coefficient estimate is biased downward for the following reason. Suppose two countries have extensive unmeasurable domestic regulations (e.g., internal market shipping regulations) that inhibit trade (causing the actual trade flow to be well below what the gravity equation would predict). The likelihood of the two countries' governments selecting a FTA may be high if there is a large expected welfare gain from potential bilateral trade creation, if the FTA deepens liberalization beyond tariff barriers into domestic regulations (and other non-tariff barriers). Thus, FTA_{ijt} and the intensity of domestic regulations may be positively correlated in a cross-section of data, but the gravity equation error term (representing how much the actual trade flow is below its potential) and the intensity of domestic regulations may be negatively correlated. This reason suggests that FTA_{ijt} and the gravity equation error term are negatively correlated, and the *FTA* coefficient will therefore tend to be *underestimated*.

Fortunately, panel techniques allow a method for avoiding the endogeneity bias. If decisions to form FTAs are slow-moving (as is often the case), they are likely related more to the level of trade than to recent changes in it. Thus, the determinants of *FTA* are likely to be slow moving. Consequently, as shown formally in Baier and Bergstrand, estimation of equation (2) using bilateral fixed (*ij*) effects and country-time effects for exporter (*it*) and importer (*jt*) will likely yield unbiased estimates of the effects of FTAs on trade flows.²⁹

Table 2.1 presents the results of estimating such a gravity equation, including a variable for the GCC FTA (*GCC*) and a separate variable for all other FTAs (*FTA_other*). Column (1) of Table 2.1 provides two coefficient estimates, one for *GCC* and one for *FTA_other* (as well as an

intercept estimate, which we ignore). We discuss first the coefficient estimates for *FTA_other*. The coefficient estimate for *FTA_other* implies that over the period 1960 to 2000 a typical FTA (other than that of the GCC) increased trade by 57 percent ($e^{0.45} = 1.57$, implying a 57 percent increase). It is worth noting that this is virtually identical to that found in Baier and Bergstrand, using similar techniques (there, $e^{0.46} = 1.58$).³⁰

Table 2.1
Panel Gravity Equations with Bilateral Fixed and Country-Time Effects*

Variable	(1)	(2)	(3)	(4)
<i>FTA_other_{yt}</i>	0.45 (8.73) ^c	0.24 (3.53) ^c	0.24 (3.23) ^c	0.31 (3.20) ^c
<i>FTA_other_{yt-5}</i>		0.39 (4.79) ^c	0.29 (2.89) ^c	0.19 (1.76) ^b
<i>FTA_other_{yt-10}</i>			0.22 (2.30) ^b	0.13 (1.27)
<i>FTA_other_{yt+5}</i>				-0.01 (-0.19)
<i>GCC_{yt}</i>	1.15 (5.66) ^c	0.79 (2.57) ^c	1.00 (3.18) ^c	1.04 (2.97) ^c
<i>GCC_{yt-5}</i>		0.45 (1.52) ^a	0.42 (1.13)	0.27 (0.75)
<i>GCC_{yt-10}</i>			0.05 (0.16)	0.46 (1.32) ^a
<i>GCC_{yt+5}</i>				-0.46 (-1.46) ^a
Constant	6.92 (208.74) ^c	7.91 (323.18) ^c	8.28 (255.42) ^c	7.81 (336.46) ^c
Total <i>FTA_other</i>	0.45	0.63	0.75	0.50
Total <i>GCC</i>	1.15	1.24	1.47	1.31
Overall <i>R</i> ²	0.1757	0.0672	0.0509	0.0471
Within <i>R</i> ²	0.5169	0.4170	0.3082	0.4192
No. observations	52639	45421	40354	37469

**t*-statistics are in parentheses. The dependent variable is the (natural log of the) real bilateral trade flow. a, b, c denote statistical significance at 10, 5, and 1 percent levels, respectively, in one-tailed *t*-tests. Coefficient estimates for bilateral fixed and country-and-time effects are not reported for brevity. "Total" is the sum of the (statistically significant) coefficient estimates for the corresponding FTA.

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However, we argue that this estimate of the effect of a typical FTA is low. First, since the data are for five-year intervals (1960, 1965, ... 2000), the coefficient estimate reflects only a five-year trade change. Since most agreements take about 10 years to phase in, and the effects on terms-of-trade may be lagged, we argue that this effect should be spread out over 15 years. This implies that one or two lagged values of the dummy variables should be included as well. Columns (2) and (3) provide estimates including one and two lags, respectively. The sum of the coefficient estimates in column (3) (which are all economically and statistically significant) is 0.75. This estimate implies that after 15 years, the typical FTA increases trade by 112 percent ($e^{0.75} = 2.12$, implying a 112 percent increase), or approximately 5.1 percent per year for 15 years. Finally, column (4) provides estimates adding a *future* level of the trade policy, to determine "causality." This helps to confirm the absence of "feedback" effects from trade to *FTA_other*. The negative and statistically insignificant coefficient estimate for the future level of *FTA_other* implies that there is no reverse causality in the findings; the causality is running from trade policies to trade flows.

The 5.1 percent annual increase in trade – totaling 112 percent over 15 years – is a much larger effect than typically found in *ex ante* computable general equilibrium (CGE) models by economists. For instance, DeRosa and Gilbert indicated that the GTAP estimates of the trade effects of the North American Free Trade Association (NAFTA) were only about one percent for Canada and Mexico, and were negative for the United States after five years (the longest period examined).³¹ For Mercosur, GTAP predicted about a 54–63 percent increase in trade for the member countries (Argentina, Brazil, Paraguay and Uruguay). However, it should be noted that the 112 percent increase we found using the gravity model does not include feedback effects on multilateral price resistance terms that on average tend to dampen the partial effect by about 20 percent. Thus, a reasonable "general-equilibrium" effect on trade from a FTA is about 90 percent over 15 years (or about 4.4 percent annually) when

including “feedback” effects. However, at 90 percent, this effect for the average FTA is at least 50 percent larger than that suggested for Mercosur by the GTAP model.

In reality, the effects of any two FTAs are unlikely to be the same. Recall the coefficient estimate for *FTA_other* was an “average” effect. Consider now the effect of membership of the GCC. Columns (1)–(4) provide a set of coefficient estimates for *GCC*. Ignoring phasing in of the FTA (which began in 1983) and any lagged terms-of-trade effects, column (1) suggests an effect of 216 percent ($e^{1.15}$). With various lags, columns (2)–(4) suggest effects of 246 percent ($e^{1.24}$), 335 percent ($e^{1.47}$) and 271 percent ($e^{1.31}$) respectively. Since the coefficient estimates for the lagged terms in columns (3) are statistically insignificant from zero, we believe that the columns (2) and (4) estimates are conservatively the most reliable ones. The estimate of a 246 percent increase in trade over the 17 years of the GCC FTA from column (2) implies an average annual increase in trade from the GCC of 7.6 percent.

This estimate is 50 percent larger than that for the average (non-GCC) FTA. Is this plausible? We believe it is for two reasons. First, many of the GCC countries had very high tariff rates and cumbersome non-tariff barriers at the time of its formation. This can potentially contribute to a much larger impact than for many developed countries that had already experienced considerable trade liberalization under the GATT.

Second, this estimate is well within the range found for FTAs signed among similar natural-resource-based economies. In another recent paper by the authors, Baier, Bergstrand and Vidal calculated using similar techniques the trade effects of FTAs over the period 1960–2000 for all of the countries in the Americas.³² For the CACM, we found a trade effect of 6.3 percent annually. For Mercosur, we found a trade effect of 8.0 percent annually, and for the Group of Three (Colombia, Mexico, and Venezuela) we found a trade effect of 14 percent annually. Thus, the 7.6 percent average annual increase in trade for the GCC is well within the range of

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estimates for trade effects of FTAs for similar natural resource-based economies that also reduced trade barriers substantially.

Overall, we believe that the *ex post* evidence of the effects of FTAs on trade flows explains the growth of regional and inter-regional FTAs over the past quarter century. The trade effects are often double the size of the *ex ante* estimates generated by economists using standard CGE models. The results for the GCC's FTA are in line with estimates found using the same technique for FTAs in the Americas. Often, FTAs add 6–14 percent average annual growth in trade during periods of transition that can last 10–15 years. The GCC's estimate of 7.6 percent suggests that the GCC FTA had a substantive effect on intra-member international trade.

The Future

As the process of “competitive liberalization” via regional and inter-regional trade agreements continues, countries in the Middle East will need to join this “market” or be left behind in the process of globalization. At stake is a potential decline in per capita incomes, similar to that which occurred during the period 1980–1995 when the Middle East and North Africa (MENA) countries' per capita incomes were stagnant in absolute terms and fell relative to that of the rest of the world. With growing political unrest in many parts of the Middle East, these countries can ill afford stagnant or declining relative per capita incomes. Joining the market for competitive liberalization of trade policies seemingly offers an opportunity for growth that cannot be sacrificed.

Where are the potential opportunities for the Middle East? An analysis for all these opportunities is well beyond the scope of this paper. However, for the GCC countries, two major opportunities are possible. First, since the beginning of this century, the EU and GCC have been in the process of negotiating a FTA. As discussed earlier, the literature now provides more “guidance” as to geographic and economic factors that can help identify FTAs that have the potential to improve the welfare of

country pairs. While the GCC countries are quite distant from the economic center of the EU, they are not outside a feasible range. This is illustrated by the example of Turkey, which is not notably closer to the EU than the GCC countries, but yet has a customs union with the EU, and is a serious economic candidate for EU membership. While the GCC's economic size is small relative to the EU, this economic factor is offset by the difference in relative factor endowments that enhance the relative benefits of a FTA. When put into the empirical model of Baier and Bergstrand, our results suggest that the probability of an EU-GCC FTA is 69.6 percent, suggesting that on net the two economic entities would benefit from a FTA.³³

Regarding the United States, the Bush administration has been pursuing individual FTAs with members of the GCC, such as the UAE. Based upon our economic analysis, we would argue that it is more economically beneficial to pursue a GCC-USA FTA rather than individual bilateral agreements. According to our model, the small economic size of the individual GCC countries and distance from the United States suggests that the amount of trade diversion from individual bilateral agreements would likely offset the trade creation. Moreover, individual agreements between the United States and various GCC countries violate the most recent GCC articles and weaken the operation of the GCC and its commitment to enforcement. Thus, more work needs to be done to evaluate the economic benefits of a GCC-USA FTA.

Conclusions

In concluding this paper, we note several caveats. First, much of the gains from specialization and trade are premised upon the notion that an economy's winners from free trade (e.g., highly skilled workers in developed economies) can compensate the losers from free trade (e.g., the lower skilled workers in developed economies) and still be better off. However, many countries that have pursued trade liberalization have

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neglected the consequent – and *expected* – redistributions of income. Trade theory – especially that based upon the Law of Comparative Advantage – has long recognized that specialization can lead to large income gains for those employed in the industries where countries have a comparative advantage. However, it can also lead to real income losses for those employed in the industries that have comparative disadvantages. It is the latter workers who are understandably apprehensive about globalization and trade policy liberalizations. However, this does not imply that globalization should not be pursued. Rather, it is the role of nations' governments to design tax policies to redistribute some of the gains of the winners from globalization to the losers in the same country, so that the latter are no worse off than before policy changes. To the extent that more trade generated is intra-industry in nature, the redistribution of income tends to be mitigated.

A second caveat is that – in a world with increased globalization – changing jobs and skill-upgrading become more frequent. Workers need to be prepared for lifelong education and retraining that can ease the adjustment costs between jobs. Many mainstream economists have recently curbed support for the rapid advancement of globalization because estimates of the adjustment costs have been shown to be much higher than previously thought. Whereas decades ago, economists thought the benefits to costs of globalization were 100-to-1, more current estimates put this ratio at 3-to-1. More complete estimates of the adjustment costs have sharply reduced this ratio. Again, it is the role of nations' governments to restructure tax and government expenditure policies to facilitate nations' adjustment to globalization, so that all may potentially benefit from its opportunities.