

# **The Economics of Analyzing the TPP: Submission to the US International Trade Commission**

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The Trans-Pacific Partnership (TPP) is a landmark agreement for the United States and the global trading system. In a paper included in the Peterson Institute's submission for these Hearings (Petri & Plummer, 2016), we estimated that the TPP will increase US real incomes substantially and establish new, market-oriented rules in a host of rapidly changing areas of international commerce.

We use a comprehensive, state-of-the-art computable general equilibrium (CGE) model to analyze the TPP. The model is based on the GTAP database, but also includes new theoretical features and information on tariffs, non-tariff barriers, trade agreements and other variables. It covers trade among 29 countries and regions and is documented on [asiapacifictrade.org](http://asiapacifictrade.org). Over the last three decades the granular microeconomic structure of CGE models has made them the tool of choice for trade policy analysis. They enable researchers to study changes in specific trade barriers and to trace effects on output, productivity and wages across countries. CGE models have been extensively tested and refined, and are now ubiquitous in policy analysis in fields ranging from trade to agriculture, energy and the environment.

Given the Commission's expertise in CGE modeling, we expect that such analysis will also play an important role in its assessment of the TPP. Yet many contributors to the public debate fail to appreciate why long-run, microeconomic models are needed, how they work, and what their limitations are. Comments at these Hearings have echoed such misperceptions, arguing for vaguely defined new approaches. In the following, we offer evidence that established

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methodologies remain relevant, and examine how long-run, microeconomic studies differ from short-run macroeconomic analysis, which some have suggested as an alternative.

The case for microeconomic analysis is most emphatically not an argument for ignoring the adjustment costs of the TPP, including the possibility of unemployment. On the contrary, CGE models provide indispensable information for analyzing such effects. We addressed these issues in our study, and further work is underway at the Peterson Institute. The benefits of the TPP are likely to overshadow costs, but both need to be estimated for a thorough assessment.

### ***The long-run micro- and macroeconomics of the TPP***

Trade policies operate through microeconomic channels. Changes in trade barriers enable producers and consumers to buy more attractive combinations of goods, stimulating additional output by more productive firms and sectors and less by others. Assessments of trade agreements ultimately trace these effects to national productivity levels, wages and incomes. But since trade policies are implemented gradually—many changes under the TPP will take 10 years, and some as long as 30 years—and subsequent market reactions also take time, the responses of firms, households and investors will stretch over many years.

Evaluating microeconomic effects therefore requires an analytical horizon of, say, 10 to 15 years (our model runs to 2030). What macroeconomic conditions should be assumed for such future years? While trends in key variables, such as overall employment, will be shaped by factors such as demographics and social security policy, various future shocks will lead to fluctuations around them. However, if the economy's normal adjustment processes work, early shocks, including those due to trade policy, will not affect expected future levels.

There is a strong theoretical case for expecting two key macroeconomic variables, net national savings and overall employment, to vary around normal levels once short-term adjustments are completed. Consider net national savings first. Trade agreements can change trade balances only if they also change long-term net national savings (the two are connected by an identity so, for example, any trade deficit needs to be financed by selling assets or borrowing from abroad).

While trade agreements include many provisions on exports and imports, they typically contain no provisions to affect savings behavior. Thus, net national savings, and hence trade balances, will remain at levels determined by other variables, and real exchange rate will adjust instead.<sup>2</sup> A similar argument applies to overall employment. The TPP could affect employment in the short run—a possibility that we examine below—but those effects will fade due to market and policy adjustments. Since there is nothing in TPP provisions to affect long-term employment trends, employment too will converge to these levels, as long as adjustments are completed in the model’s 10-15 year time horizon.

In fact critics of microeconomic analysis often challenge the credibility of market adjustment even in the long term. Dean Baker (2016) argues, for example, that mechanisms that may have once enabled the US economy to return to equilibrium are no longer working in the aftermath of the financial crisis. But the data tell a different, less pessimistic story (Figure 1). Since 2010, the US economy has added 13 million jobs, a substantial gain compared to job growth episodes in recent decades, and the US civilian unemployment rate has declined from nearly 10 percent to under 5 percent. The broadest measure of unemployment (U6), which also includes part-time and discouraged workers, has declined almost as sharply, from 17 to 10 percent, and is now nearly back to average levels in pre-crisis, non-recession years.

Figure 1. Resilience of US Employment Indicators, 2000-2016  
 A: Non-farm Payrolls, B: Civilian Unemployment Rate, C: Broad Unemployment Rate (U6)



Source: Federal Reserve Bank of St. Louis, <https://research.stlouisfed.org/fred2/series/U6RATE>

<sup>2</sup> The estimated exchange rate adjustments turn out to be very small for the TPP; the US real exchange rate would decline by only 0.1 percent overall, over the entire 15 year horizon of the model.

Given the extraordinary severity of the 2008-09 crisis, the data offer a sanguine view of the resilience of the US economy. What then explains widespread public pessimism about the recovery? We suspect the reason is not lack of employment gains, but lack of wage gains, which in turn reflect disappointing productivity growth. The causes of slow productivity growth are not well understood, but an active trade policy should increase productivity and wages, while withdrawal from international markets has impeded economic recoveries in the past.

### ***The short-run macroeconomics of the TPP***

The process that leads economies toward normal savings and employment in the long run may not work in the short run, since markets and prices may be slow to adjust. Thus, the possibility of short-run macroeconomic shocks cannot be ruled out in analyzing the TPP. Could the TPP generate a significant demand shock in the short run, and if so, what would be the direction of that shock?

Two different causes could lead to unemployment under the TPP. In a macroeconomic scenario, proposed by TPP opponents, the US trade deficit would increase, reducing demand, and leading to unemployment. As argued below, this is unlikely. An alternative, microeconomic scenario raises more plausible concerns. This argues that workers could become unemployed because they are unable to move from contracting firms to expanding ones, say, due to insufficient skills or geographical constraints. This scenario is discussed in the next section.

The potential for macroeconomic unemployment—insufficient demand due to an increased trade deficit—can be roughly estimated from our current results. We show that the TPP will impact only 1.4 percent of US economic activity even in 2030 (the share of projected trade increases in GDP). Since implementation will take a decade or more, only about 0.1 percent of US GDP will be exposed to change in any given year—we estimate that annual increases in US exports and imports will average \$24 billion. Even if prices failed to balance changes in exports and imports, the potential *net* demand shock is unlikely to exceed \$10 billion. That would make the demand

effects of the TPP no greater than the demand effects of a *single* day's change in US equity prices—an effect small enough to be routinely handled by market adjustments.<sup>3</sup>

In fact, if trade growth should become imbalanced under the TPP, the results are likely to be expansionary. Since reductions in US trade barriers will be smaller than reductions in the barriers of TPP partners (because the initial values of US barriers are lower), the TPP should create more US exports than imports before such imbalances are eliminated by price adjustments.

In other words, while short-run macroeconomic effects cannot be ruled out, they will be small and as likely positive as negative. Should the Commission nevertheless find reason to expect non-negligible demand shocks, it could analyze those with a reputable macroeconomic model. However, we would caution against using the so-called “Tufts model” recently circulated by opponents of the TPP.<sup>4</sup>

### ***Analyzing adjustment***

Transitional labor market effects represent a research priority, since adjustment-related unemployment could represent a significant burden for individuals and communities. This is emphasized in recent papers by Autor, Dorn, & Hanson (2014, 2016) based on the experience of US manufacturing firms during the 2000s, when a large wave of Chinese imports affected US manufacturing industries. Their analysis highlights Keynesian multipliers operating within commuting zones, and long periods of adjustment for unemployed workers.

But the Chinese import wave and the TPP have little in common. The early 2000s witnessed a massive surge in net capital inflows into the United States. Charles, Hurst and Notowidigdo

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<sup>3</sup> This is a simple “back of the envelope” estimate. US equity markets were capitalized at \$26.3 trillion in 2014 (<http://data.worldbank.org/indicator/CM.MKT.LCAP.CD>) and using the ballpark estimate of daily volatility of one percent suggests a typical daily change of \$263 billion. If a \$1 change in asset values results in a 4 cent change in annual consumer expenditures, the expenditure impact of the daily change in equity prices will be \$10.5 billion.

<sup>4</sup> This model was earlier used to project the effects of TTIP and recently the effects of the TPP (Capaldo, Izurieta, & Sundaram, 2016). Several reviewers question the credibility of this work (Bauer & Erixon, 2015, Erixon & Bauer, 2015, Lawrence, 2016, Mustilli, 2015, Pelkmans, 2015).

(2013) have shown that those inflows significantly inflated US expenditures and, as a result, US production shifted sharply away from manufactures toward non-tradable services. Construction employment increases and manufacturing employment declines roughly offset each other. These imbalances were due to ill-fated, macroeconomic decisions by China and the United States—on one side to accumulate reserves and to keep the RMB inexpensive, and on the other to maintain high expenditures while lowering taxes and deregulating the financial sector. Without such policies, the TPP should yield roughly balanced import and export growth, at half the rates of the 2000s. Imports would be also more widely distributed across sectors, reducing the concentration effects that amplified adjustment costs in the China studies.

In any case, CGE models provide a starting point for analyzing adjustment by estimating job additions and losses at sectoral and firm levels (Autor, Dorn, & Hanson, 2014 use similar input-output tools). Our study estimates that some 53,700 job changes could be required annually during the implementation of the TPP, a number that represents 0.1 percent of routine annual job changes in the United States. Despite the small relative magnitude of this number, some transitions may be quite costly for individuals, involving wage losses and unemployment. Thus, our estimates need to be supplemented with information on the adjustment experiences of different groups of workers. Such work is underway by Robert Lawrence and Tyler Moran at the Peterson Institute for International Economics, and should yield estimates of the costs and income distribution effects of the TPP. The Commission will no doubt undertake similar analysis in its own labor market studies.

### ***Implications for the Commission's Work***

CGE models remain the best available tool for analyzing the structural and productivity effects of trade policy, and there is no evidence that the long-run adjustment mechanisms they assume have become dysfunctional. Microeconomic models can trace the implications of trade policy across the economy, estimate sectoral and overall productivity gains, and show how trade policy will change wages and the income distribution. They also offer indispensable information for identifying labor market effects and adjustment costs.

We hope that the Commission will extend and refine microeconomic estimates of the consequences of the TPP. We also expect that it will supplement this research with narrower and deeper studies of important issues including:

- Sectoral studies to develop granular detail on how TPP provisions will affect specific business activities. Such analysis could yield “bottom up” estimates of benefits from TPP provisions such as access to telecommunications networks, enforcement of IP rights, more open government procurement, and prohibitions on data localization requirements.
- Labor market studies to provide a detailed assessment of adjustment implications. Sectoral or regional impediments to adjustment may be costly, even if economy-wide effects are unlikely. This work should place the TPP into the broader context of structural change in the US economy, alongside other factors such technology, demographics, and demand.
- Geopolitical analysis to explore the implications of the TPP, or its failure, for the global trading system. With clear comparative advantage in new sectors, the United States has a large stake in keeping innovative markets open. Its leadership on trade initiatives in the Asia-Pacific and beyond may well depend on the success of the TPP.

The Commission has set a high bar for its assessment of the TPP with its own excellent record in past studies. The stakes are high: the choices that Congress will soon make will shape the US economy, international cooperation on trade, and American leadership on economic issues for decades to come.

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