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ANALYZING THE FISCAL ASPECTS OF
THE "GREAT TARIFF DEBATE OF 1888"**

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Working Paper **6239**

NBER WORKING PAPER SERIES

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<http://www.nber.org/papers/w6239>

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
October 1997

I wish to thank Randy Mariger, Jaime Marquez, and Jonathan Skinner for helpful comments. This paper is part of NBER's research programs in the Development of the American Economy and International Trade and Investment. Any opinions expressed are those of the author and not those of the National Bureau of Economic Research.

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October 1997

JEL Nos. N71, H6, F13

Development of the American Economy
and International Trade and Investment

ABSTRACT

After the Civil War, Congress justified high import tariffs (relative to their prewar levels) as necessary in order to raise sufficient revenue to pay off the public debt. By the early 1880s, the federal government was running large and seemingly intractable fiscal surpluses — revenues exceeded expenditures (including debt service and repurchases) by over 40 percent during that decade. The political parties proposed alternative plans to deal with the surplus: the Democrats proposed a tariff reduction to reduce customs revenue, the Republicans offered higher tariffs to reduce imports and customs revenue. This paper examines this debate and attempts to determine the revenue effects of the proposed tariff changes. The results indicate that, given the height of the tariff and the price elasticity of U.S. import demand during the 1880s, the actual tariff was below the maximum revenue rate, and therefore a tariff reduction would have reduced customs revenue.

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**Higher Tariffs, Lower Revenues?
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In the late nineteenth century, U.S. import tariffs served two purposes: they raised fiscal revenue and they protected certain domestic producers from foreign competition. To help collect sufficient revenue to pay off the enormous debt incurred as a result of the Civil War, Congress kept tariffs high (relative to pre-war rates) after the war. By the early 1880s, however, a curious problem had arisen — the federal government was running large and seemingly intractable fiscal surpluses.

The two main political parties agreed that a significant reduction of the budget surplus was an urgent priority. The Republicans and the Democrats also agreed that a large expansion in government expenditures was undesirable. The parties strongly disagreed, however, on tax policy (that is, tariff policy), and this disagreement set the stage for what became known as “the Great Tariff Debate of 1888.”

Fashioning themselves as “tariff reformers,” the Democrats proposed reductions in import duties. They believed that this would reduce government revenue, ease the tax burden on consumers and farmers, and eliminate inequities associated with special interest protection. The Republicans, by contrast, argued that any tariff reduction would stimulate imports and raise even more revenue. Furthermore, they contended, lower tariffs would expose American industry and workers to foreign competition and thereby jeopardize the economic well-being of the country. The Republicans proposed higher tariffs to achieve the dual objectives of reducing government

revenue and protecting American industry from import competition.

The “Great Tariff Debate” thus concerned both the revenue effects of tariffs and the broader issue of free trade and protection. This paper focuses exclusively on the fiscal aspects of this controversy because, in principle, either the Democratic or the Republican view on the revenue effects of tariff changes could have been correct — depending upon how much import demand responded to lower or higher tariffs, either more or less government revenue could be raised than before the change. The aim of this paper is to understand the revenue effects of tariffs more thoroughly and determine which view was more accurate.

After a brief overview of the political debate over the revenue effects of tariff changes, this paper discusses the analytics of revenue-maximizing tariff rates. The response of revenue to a change in the tariff is shown to hinge crucially on the price elasticity of U.S. import demand. This elasticity is then estimated with annual data from 1869-1913 and used to evaluate the competing claims about the revenue effects of tariff changes. Finally, evidence from the McKinley tariff of 1890 is examined to corroborate the main findings of the paper.

The Fiscal Surplus and “The Great Tariff Debate of 1888”

A Republican Congress enacted the Morrill tariff of 1861, which sharply raised import duties, just prior to the outbreak of the Civil War. To help finance war-related expenditures, Congress repeatedly raised import duties during the early 1860s.¹ The large public debt left to be serviced in the war’s aftermath left little room for a post-war tariff reduction. Tariffs were the

¹ See Richardson, *The Greatest Nation of the Earth*, for a discussion of Republican tariff policies in the 1860s.

single most important source of government revenue in the decades after the war, raising just over half of all revenue. In the late 1860s and through the 1870s, high tariff rates enabled the government to run a fiscal surplus and reduce the debt.

By the early 1880s, however, the fiscal surpluses of the federal government began to swell to unprecedented proportions. During the years 1880-88, revenues exceeded expenditures by a sizeable 40 percent, on average. In fiscal year 1888, for example, the federal government ran a budget surplus of \$111.3 million, which amounted to 41.6 percent that year's \$267.9 million in expenditures — including not only debt service but the sinking fund.² John James notes that although “callable debt was completely retired by 1887” the government “continued to pay off debt by purchasing noncallable debt in the open market, having had to pay premiums as high as 29% above par.”³ As a result, the debt to GNP ratio fell sharply, from 31 percent in 1869 to 19 percent in 1880 and to 11 percent in 1888.⁴

The large fiscal surpluses were perceived as a major economic problem for the government. Some in Congress forecast that the entire national debt would soon be eliminated and worried that, unless something changed, the Treasury would continue to accumulate assets. They feared that this would drain the economy of liquidity and have adverse repercussions on the nation's financial system and economy. Congress established a Tariff Commission in 1882 to

² In fiscal years 1882 and 1883, revenues exceeded expenditures by over 50 percent.

³ James, “Public Debt Management,” p. 193. See also Williamson, “Watersheds and Turning Points.”

⁴ Nominal GNP is taken from Balke and Gordon, “The Estimation of Pre-War Gross National Product.” All other figures in this paragraph are from the Historical Statistics of the United States, series Y335-338, Y352-353.

propose possible reforms of the tariff. Although the members were favorable to protection, they made the surprising recommendation that import duties be reduced by about 25 percent, on average. Congress responded by enacting a tariff in 1883 that left import duties largely unchanged.

Then, in December 1887, President Cleveland (a Democrat) took the unusual step of devoting his entire State of the Union message to the tariff. After noting the potential economic problems associated with the surplus, Cleveland concluded that “our present tariff laws, the vicious, inequitable, and illogical source of unnecessary taxation, ought to be at once revised and amended.” Cleveland called for an immediate reduction in most import tariffs. He argued that tariffs diminished competition and raised the prices of imported goods and their domestic substitutes to the detriment of consumers, farmers, and businesses requiring those goods as inputs. In an attempt to diffuse the issue of protectionism, Cleveland stated that he did not embrace “free trade,” but that lower tariffs were needed because “what confronts us is a condition, not a theory.”⁵

As a result of this plea, the Democratic majority on the House Ways and Means Committee began to fashion new tariff legislation in early 1888. The Mills bill (named after Roger Mills, chairman of the Ways and Means Committee) proposed reducing most import duties for all of the reasons outlined in Cleveland’s address. According to the committee, if the tariff rates in the proposed House bill had been applied to 1887 imports, the average ad valorem rate would

⁵ Quoted in Taussig, Selected Readings, pp. 529ff.

have fallen about 27 percent.⁶

The minority Republicans on the Ways and Means Committee, led by Rep. William McKinley, vigorously dissented from the low rates in the Mills bill. They objected to any reduction in protection, contending that this would lower workers' wages and harm U.S. industry. But they also objected on fiscal grounds:

“If it be the purpose of the majority to reduce the income of the Government from customs sources, we beg to remind them that that purpose will not be accomplished by the scaling down of duties, as proposed in the bill. It is well known and supported by almost universal experience that a mere diminution of duties tends to stimulate foreign importations and thereby increase the revenue.”⁷

Using examples from the tariff reductions of 1883, they claimed to “demonstrate that a simple scaling down of duties from 20 to 30 or 40 per cent, more or less, will only increase revenues and therefore augment the surplus.”

With an eye to the upcoming congressional and presidential election, the House engaged in an extensive debate over the Mills bill in April and May of 1888. Rep. William Springer (D-IL) stated that “as long as our government shall endure, it shall be known as ‘the Great Tariff Debate of 1888.’”⁸ In a largely partisan vote, the House passed the bill.

However, the Mills bill was “dead on arrival” in the Senate, which was controlled by the

⁶ This calculation was made in the House report accompanying the legislation and assumed no behavioral response to the lower tariff rates. See U.S. Congress, “Customs Tariffs,” p. 29.

⁷ U.S. Congress, “Customs Tariffs,” p. 43.

⁸ Quoted in Standwood, American Tariff Controversies, II, p. 234.

Republicans. They fashioned their own legislation, which proposed to raise tariff rates instead. The Senate Finance Committee report (written by the majority) rejected the House bill in part because “[i]ts adoption would probably result in an increase, instead of a reduction, of the revenue from customs.” “The House bill,” they explained, “has been formulated on the theory that a diminution of revenues can only be secured by a reduction or repeal of protective duties, and that tariff revision means simply that indiscriminate cutting down of rates which encourages importations, benefits foreign manufacturers, and produces free trade.” Finance Committee Republicans rejected this “theory” because “we are confident that the large reduction in rates proposed would result in greatly increased importations” and thereby increase rather than diminish customs revenue. Instead, they proposed reducing internal excise taxes (mainly on alcohol) and raising import duties, an approach that they believed would “reduce revenues and at the same time preserve the American system [of protection].”⁹

The Senate bill, however, never came to a vote as Congress adjourned in the final weeks of the fall election campaign. The presidential election of 1888, in which the main issue was the tariff, decided the issue by giving the Republicans control of both chambers of Congress and the presidency.¹⁰ The result was the McKinley tariff of 1890, which significantly scaled up tariff rates. According to the report of the House Ways and Means Committee majority, the proposition that higher tariff rates would lead to a “substantial reduction” in customs revenue “admits of no doubt.” As they explained, “it is not believed that the increase of duties upon wools and woolen

⁹ Quotes from U.S. Congress, “Customs Tariffs,” p. 91.

¹⁰ See Reitano, The Tariff Question, for details on the role of the tariff in the election campaign.

goods, and upon glassware, will have the effect of increasing the revenues. . . . The result will be that importations will be decreased, and therefore the amount of revenue collected from these sources will be diminished.” In fact, the Republicans were so bold as to predict that “[i]n every case of increased duty except that imposed upon tin plate . . . and upon linen fabrics the effect will be to reduce rather than enlarge the revenues, because importations will fall off.”¹¹

The minority Democrats on the Ways and Means Committee were incredulous: “A time when it is confessed by all parties that the Government does not need additional revenue, but that there ought to be a reduction of its receipts, the bill reported by the majority proposes to levy upon a great many articles of absolute necessity higher rates of duty than were ever heretofore proposed in any measure reported to Congress.” In fact, the Democrats “did not even make answer to the general proposition that the reductions in the rates of duty would result in an increase of importation and an augmentation rather than a diminution of the revenue,” allowing the Republican position to go “unanswered.”¹²

These two opposing views of the revenue effects of tariff changes were stated not just in the committee reports, but frequently on the floor of the House and Senate (as reported in the Congressional Record) as well. The “Democratic hypothesis” held that lower tariff rates would reduce customs revenue. The “Republican hypothesis” held that higher tariff rates would reduce customs revenue. Which of these competing positions was a more accurate characterization of the response of revenues to tariffs?

¹¹ U.S. Congress, “Customs Tariffs,” p. 243.

¹² Stanwood, American Tariff Controversies, II, p. 236.

The Tariff Rate and Customs Revenue

It has long been recognized that customs duties pushed beyond a certain rate would so discourage imports as to reduce government revenue. As Adam Smith pointed out in the Wealth of Nations,

“The high duties which have been imposed upon the importation of many different sorts of foreign goods, in order to discourage their consumption in Great Britain, have in many cases served only to encourage smuggling; and in all cases have reduced the revenue of the customs below what more moderate duties would have afforded. The saying of Dr. Swift, that in the arithmetick of the customs two and two, instead of making four, make sometimes only one, holds perfectly true with regard to such heavy duties, which never could have been imposed, had not the mercantile system taught us, in many cases, to employ taxation as an instrument, not of revenue, but of monopoly.”¹³

The revenue impact of taxes on labor income has received extensive discussion in the public finance literature.¹⁴ The approach in this literature can easily be adapted to the case of import duties; whereas the revenue-maximizing tax on labor income hinges crucially on the elasticity of labor supply, the revenue-maximizing tariff hinges crucially on the elasticity of import demand.¹⁵

¹³ Smith, Wealth of Nations, V.ii.k.27.

¹⁴ See, for example, Blinder, “Thoughts on the Laffer Curve;” Fullerton, “On the Possibility of an Inverse Relationship;” and Browning, “Elasticities, Tax Rates, and Tax Revenue.”

¹⁵ The international trade literature on tariffs suggests that the maximum revenue tariff rate exceeds the optimal tariff rate, but has otherwise not devoted much attention to the revenue-effects of tariffs. James (“The Optimal Tariff”) has estimated the antebellum optimal tariff to be

The expression for government tariff revenue is:

$$R = tpM,$$

where R is revenue, t is the average ad valorem tariff rate, p is the price of imports, and M is the volume of imports. Totally differentiating this expression with respect to the tariff yields:

$$\frac{dR}{dt} = pM + tp \frac{dM}{d(p(1+t))} + tM \frac{dp}{dt}.$$

The first term is the estimate of the marginal tax yield if there were no behavior responses to the tariff change. The second term is the change in revenues resulting from the change in the tax base (in this case, the volume of imports) as a result of the tariff change. The third term is the revenue effect resulting from a tariff-induced change in import prices.

If import prices are exogenous (i.e., the elasticity of foreign export supply is infinite), the tariff is fully passed-through to consumers and the last term in this expression drops out ($dp/dt = 0$). If foreign export supply is not perfectly elastic, however, a higher tariff will reduce import prices and the last term will not drop out. Both cases are considered below.

Case 1 — Fixed Import Prices:

The revenue-maximizing tariff rate, t^* , is found by setting dR/dt to zero. Taking import prices as given (i.e., $dp/dt = 0$), the revenue-maximizing tariff rate is:

$$t^* = -\frac{1}{1 + \eta_D}$$

about 35-40 percent, but Harley (“The Antebellum American Tariff”) strongly disputes this. The maximum revenue tariff calculated in this paper is much higher than even James’s estimate of the optimal tariff.

where η_D is the relative price elasticity of import demand. If import demand is inelastic ($\eta_D < -1$), then the revenue-maximizing tariff is infinite. If import demand is elastic, the revenue-maximizing tariff can be quite large: if $\eta_D = -2$, then $t^* = 100\%$; if $\eta_D = -4$, then $t^* = 33\%$. Clearly, the precise revenue-maximizing tariff rate is very sensitive to the underlying elasticity of import demand. Furthermore, the “Republican hypothesis” cannot be easily ruled out: an import demand elasticity of -4 is plausible, and a tariff of 33% is not far from actual tariff rates in the late nineteenth century. Therefore, the existing tariff could have been beyond the revenue-maximizing rate.

A problem with this formula is that it assumes that the import demand elasticity is fixed and does not depend upon price, when demand elasticities are not generally constant. (If they were, inelastic demand would be impossible because that would imply that a very high price would induce consumers to spend all of their income on those goods.) A more useful formula indicates how total revenue responds to a small change in the tariff rate and can be evaluated with the elasticity that was determined using actually observed historical prices. The expression for the elasticity of tariff revenue with respect to the tariff is:

$$\frac{dR}{dt} \cdot \frac{t}{R} = 1 + \left(\frac{t}{1+t}\right) \cdot \eta_D$$

If the initial tariff rate is 50% and $\eta_D = -2$, for example, then the tariff revenue elasticity is 0.33, indicating that a 1 percent increase in the tariff rate will increase tariff revenue only by .33 percent. A higher price elasticity of import demand and a higher initial tariff will lead to a lower elasticity.

Case 2 — Flexible Import Prices:

If foreign export supply is not perfectly elastic, then the tariff affects import prices, which in turn affects import demand and thus revenues. In this case, the revenue-maximizing tariff rate is:

$$t^* = \frac{\eta_D - \epsilon_S}{\epsilon_S(1 + \eta_D)}$$

where $\epsilon_S (>0)$ is the elasticity of foreign export supply. For a given value of the elasticity of import demand, this equation implies a higher revenue-maximizing tariff rate than that in case 1 because the higher tariff reduces import prices, meaning imports and revenue would be greater than would otherwise be the case. Taking $\eta_D = -2$, for example, $\epsilon_S = 3$ implies $t^* = 166\%$; $\epsilon_S = 5$ implies $t^* = 140\%$; $\epsilon_S = 7$ implies $t^* = 128\%$ — as ϵ_S approaches infinity, t^* approaches 100%, as in case 1. If import demand is more elastic at $\eta_D = -4$, then the respective revenue-maximizing tariffs are 77%, 60%, and 52%.

In this case, the elasticity of revenue with respect to the tariff rate can be expressed as follows:

$$\frac{dR}{dt} \cdot \frac{t}{R} = 1 + \left(\frac{t}{1+t} \right) \cdot \frac{\eta_D(1 + \epsilon_S)}{\epsilon_S - \eta_D}$$

For example, if the initial tariff is 50% and $\eta_D = -2$, then $\epsilon_S = 3$ implies a revenue elasticity of 0.47, $\epsilon_S = 5$ implies an elasticity of 0.42, and so on.

In principle, either the “Democratic” or the “Republican” hypothesis could be true. Which

position more accurately characterizes the true relationship between tariff rates and revenues is an empirical question that hinges on the height of the current tariff rate and the elasticity of import demand. The lack of existing estimates of import demand for this period (to my knowledge) makes it necessary to determine this key parameter if the question is to be addressed satisfactorily.

Estimating Late-Nineteenth Century U.S. Import Demand

Jaime Marquez has presented a comprehensive discussion of virtually every econometric study (almost all of which rely on post-war data) that estimates U.S. import demand elasticities. He reports widely ranging estimates of the price elasticity, ranging from as little as -0.5 to as much as -4.8, with the typical estimate being -1.2. The uncertainty as to the value of this parameter makes it necessary to use data from the period around 1888 to determine the import demand elasticity during this time.¹⁶

The most recent approach to estimating import demand equations relies on the cointegration of the relevant economic variables. Import demand equations were traditionally estimated as a partial adjustment model using ordinary least squares (OLS), whereby the log of import volume is regressed on its lagged value, the log of the relative price of imports, and the log of GNP. If these series are nonstationary, however, OLS is inconsistent and the traditional test statistics may lead to incorrect inferences. First-differencing might ensure that the data are

¹⁶ Marquez, "Long Term Trade Elasticities." In an attempt to reduce the uncertainty about this parameter (to the extent it depends upon different sample periods and estimation techniques), Marquez estimates an import demand equation using annual data from 1890-1992, but finds that the long-run elasticities lack statistical significance. (This finding may be the result of including data from the period of World War I and II, because he finds significant estimates for the post-war period.)

stationary, but then information is lost about the long-run relationship between the levels of the variables. Cointegration is based on the notion that even if the individual series are nonstationary, a linear combination of those series may be stationary. The linear combination of the variables yields the parameters of the cointegrating vector and represents the long-run relationship between them. Soren Johansen has shown how maximum likelihood methods can be employed for estimating the cointegrating vector.¹⁷

The Johansen approach will be used to determine the cointegrating vector for three variables — the log of import volume, the log of the relative price of imports, and the log of real GNP. Annual observations of these series is readily available for the years 1869-1913, the 45 years between the Civil War and World War I. The Historical Statistics of the United States presents data series on the (unit value) price of imports (series U 238) and an index of the volume of imports (series U 237). The (unit value) price of imports from 1869-1879 is from Simon.¹⁸ In constructing the relative price of imports, defined as $p_M(1+t)/p_D$, where p_M is the price of imports (exclusive of the tariff), t is the average ad valorem rate of import duty, and p_D is an index of domestic prices, choices must be made about the tariff variable and the domestic price variable. The most common indicators of the tariff are tariff revenue as a share of total imports (series U 211) and tariff revenue as a share of dutiable imports (series U 212). Either measure made little

¹⁷ Johansen, “Estimation and Hypothesis Testing.” Clarida, “Cointegration, Aggregate Consumption, and the Demand for Imports,” uses a two-step cointegrating regression procedure proposed by Engle and Granger, but this approach does not reveal whether the estimated cointegration vector is unique or simply a linear combination of several cointegrating vectors. The Johansen procedure tests for the number of cointegrating vectors and can discriminate between them. For a lucid application of the Johansen technique to import demand estimation, see Yuan and Kochar, “China’s Imports.”

¹⁸ Simon, “The United States Balance of Payments.”

difference to the estimation results, so results are reported using the broadest measure of the tariff, tariff revenue as a share of total imports. As for domestic prices, both a consumer price index (series E 135) and a wholesale price index (series E 40 and E 52) are available; the results were most precise using the consumer price index and those are reported. Balke and Gordon present annual estimates of real GNP from 1869.

Unit root tests are first performed to show that the underlying data are nonstationary. Table 1 (a) presents Augmented Dickey-Fuller statistics that test for the presence of a unit root in each data series. The results indicate that all three variables are all nonstationary in levels, but are stationary in first-differences. Table 1 (b) presents tests for number of cointegrating vectors. The results indicate that one can reject (at the 5 percent level) the hypothesis that there does not exist a cointegrating vector ($r = 0$). The hypothesis that there is at most one or at most two cointegrating vectors cannot be rejected at the 5 percent level.

Table 1 (c) presents the parameters of the normalized cointegration vector.¹⁹ The point estimate of the relative price elasticity of import demand is about -2.6. This estimate is higher than the mean value of price elasticities found in postwar data, as reported by Marquez, but well within the range of those elasticities. In any event, we will want to examine the sensitivity of revenue to the particular import demand elasticity chosen.

No explicit assumption about the foreign export supply elasticity has been made in estimating this cointegrating vector. If foreign export supply is not perfectly elastic, then standard OLS estimates of import demand will generate downward-biased estimates of the price elasticity.

¹⁹ The Johansen technique allows for a quadratic deterministic trend in the data. There is a linear trend in the vector autoregression, and an intercept and trend in the cointegrating equation.

Cointegration provides a consistent estimation of the price elasticity because, in principle, it takes into account all endogenous variation in the data and results in a stationary error term. This is one reason why this approach yields a larger price elasticity than comparable OLS estimates of import demand. Still, nothing is revealed about the precise value of the foreign export supply elasticity, which, as already noted, is also a key parameter.

Evaluating the Revenue Impact of Late Nineteenth Century Tariffs

With this estimate of the relative price elasticity of late-nineteenth century U.S. import demand in hand, the fiscal implications of the proposed tariff changes can be evaluated. Table 2 uses this elasticity estimate in the context of the formulas derived previously. Case 1 takes import prices as fixed and, for various elasticities, calculates the revenue-maximizing tariff and elasticity of revenue with respect to the tariff. The initial tariff is taken to be 30.6%, the 1888 value of tariff revenue over total imports reported in the Historical Statistics of the United States. With an elasticity of -2.6, the revenue-maximizing tariff is over 60%, roughly double the actual tariff. This suggests that the “Democratic hypothesis” is correct — at the given tariff level and given response of import demand to the tariff, tariff revenue would fall with a reduction in the tariff. The elasticity of revenue with respect to the tariff is about 0.4 — which indicates that a significant tariff cut would have been in order if eliminating the surplus had been the objective. The Table also considers elasticity values plus-and-minus one standard error from the point estimate. If one is willing to consider import demand elasticities above -3.7, then the revenue maximizing tariff rate begins to approach 30% and the “Republican hypothesis” becomes more plausible.

The case for the “Republican hypothesis” becomes much less plausible, however, if foreign

export supply is not perfectly elastic, as case 2 of Table 2 demonstrates. Because estimating export supply elasticities is notoriously more difficult than estimating import demand elasticities, no attempt is made here to determine this parameter. However, with an export supply elasticity of 5 and an import demand elasticity of -2.6, the revenue-maximizing tariff jumps to nearly 100 percent. Even when import demand is highly price elastic, just adding some elasticity to foreign export supply brings the revenue-maximizing tariff well above the actual tariff in 1888. In this case, a tariff reduction would have reduced the customs revenue received by the government.

To confirm the above judgment, the actual record of trade and revenues before and after the October 6, 1890 imposition of the McKinley tariff can be examined. Table 3 presents selected data. The Treasury Department reports annual data for the year ending June 30, so the period July 1, 1889-June 30, 1890 (before the tariff) can be compared with July 1, 1890-June 30, 1891 (during which time the tariff had been in effect for nine months).

At first glance, the aggregate numbers seem to bear out the claims of Republicans. The McKinley legislation generally raised tariff rates and as a result, Republicans would contend, the value of dutiable imports fell 8 percent, from \$508 million to \$467 million, over this period. Customs revenue also declined, about 4 percent from \$225 million to \$215 million.

These figures, however, do not vindicate the “Republican hypothesis.” A key provision of the McKinley act was the transfer of raw sugar to the duty-free list.²⁰ At the time, sugar was the most important revenue raising item in the tariff code; protection was somewhat less of an issue as there was little domestic production except for sugar cane growers in Louisiana. Shifting this large component of U.S. imports onto the duty free list had the effect of reducing the value of

²⁰ See Taussig, Tariff History, pp. 275-77.

dutiable imports and also subsequent customs revenue. This provision, rather than higher tariff rates, account for most of the reduction in dutiable imports and customs revenue.

When sugar (including raw and processed sugar, molasses, etc.) is excluded from imports, the value of dutiable imports rose negligibly (0.8 percent, to \$423.5 million) after the imposition of the tariff, but revenue increased 7.8 percent, from \$170 million to \$183 million. Thus, it appears that the higher tariff rates in the McKinley tariff succeeded in raising additional revenue, as the analysis in this paper suggested it would.

Conclusions

The evidence presented in this paper suggests that a general reduction in import duties would have reduced the customs revenues of the federal government in the 1880s. The Republicans were correct in stating that lower duties would lead to greater imports, but that did not necessarily imply an increase in tariff receipts.

The contrary positions taken by the political parties were each given a plausible economic rationale, although neither reflected a very careful analysis of the issue at hand. To an important extent, both positions were ones of convenience. The fundamental, underlying issue was protectionism. Both parties had staked out clear positions on this issue in the years after the Civil War — the Republicans favored high tariffs to protect business interests, the Democrats favored moderate, revenue duties to ease the tax burden on farmers and consumers. Neither party was willing to sacrifice this position on trade policy merely to balance the fiscal position of the federal government. Each party stated that the degree of protection they offered was perfectly compatible with what both parties agreed was a desirable reduction in government revenues.

That there really was no conflict between trade policy and fiscal policy was made clear in the Republicans' creative McKinley tariff of 1890, which achieved both higher tariff rates and lower tariff revenues by raising protective duties and by setting some revenue duties to zero (moving sugar onto the duty-free list, for example). By the early 1890s, slower economic growth and greater public spending helped shift the government's fiscal position toward deficit and the "problem" of the fiscal surpluses was soon gone.

Table 1: Cointegration Tests of U.S. Import Demand: 1869-1913

(a) Unit Root Tests for Stationarity

Variable	ADF Test Statistic
log (m)	-2.77
Δ log (m)	-5.52
log ($p_M(1+t)/p_D$)	-2.91
Δ log ($p_M(1+t)/p_D$)	-4.63
log (y)	-2.17
Δ log (y)	-4.33

Note: The 5% critical value is -3.51 in each case. Test includes an intercept, a trend term, and one lag

(b) Tests for Number (r) of Cointegrating Vectors

Hypothesis	Likelihood Ratio	5% Critical Value
$H_0: r = 0$	37.53	34.55
$H_0: r \leq 1$	11.97	18.17
$H_0: r \leq 2$	2.05	3.74

c) Parameters of the Cointegrating Vector

log ($p_M(1+t)/p_D$)	-2.57 (1.09)
log (y)	2.19 (1.05)
trend	-0.12
constant	-8.78
Log Likelihood Statistic	149.63

Note: Standard errors in parenthesis.

Table 2: Maximum Revenue Tariff Rates and Revenue Elasticities

Case 1: Fixed Import Prices

η_D	-1.5	-2.6	-3.7
Revenue-Maximizing Tariff Rate	200.0%	62.5%	37.0%
Revenue Elasticity	0.65	0.39	0.13

Note: η_D is the price elasticity of import demand. Revenue elasticity assumes that the actual tariff is 30.6%.

Case 2: Endogenous Import Prices

Revenue-Maximizing Tariff

	$\eta_D=-1.5$	$\eta_D=-2.6$	$\eta_D=-3.7$
$\epsilon_S=3$	300.0%	116.7%	82.7%
$\epsilon_S=5$	260.0%	95.0%	64.4%
$\epsilon_S=10$	230.0%	78.8%	50.7%

Revenue Elasticity

	$\eta_D=-1.5$	$\eta_D=-2.6$	$\eta_D=-3.7$
$\epsilon_S=3$	0.69	0.56	0.48
$\epsilon_S=5$	0.68	0.52	0.40
$\epsilon_S=10$	0.66	0.47	0.30

Note: η_D is the price elasticity of import demand. ϵ_S is the price elasticity of foreign export supply. Revenue elasticity assumes that the actual tariff is 30.6%.

Table 3: U.S. Trade and Customs Revenue, 1890 and 1891

	1890			1891		
	Total Imports	Dutiable Imports	Duties Collected	Total Imports	Dutiable Imports	Duties Collected
Total	\$773.7	\$507.6	\$225.3	\$854.5	\$466.5	\$215.8
Sugar	\$87.6	\$87.6	\$55.2	\$100.5	\$43.0	\$32.5
Total Excluding Sugar	\$686.1	\$420.0	\$170.1	\$754.0	\$423.5	\$183.3

Note: Figures in millions.

Source: U.S. Department of Treasury, "Annual Report," pp. 816-820.

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