WOMEN AND TARIFFS: TESTING THE GENDER GAP HYPOTHESIS IN A DOWNS-MAYER POLITICAL-ECONOMY MODEL

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This paper tests a variant of the standard endogenous tariff model under direct democracy (the Downs-Mayer model) with a gender gap. Specifically, we argue that, if there is a division of economic activity between men and women, and political preferences are affected by one's relationship to the economy, there will be a gender gap in political activity. We test this hypothesis with respect to the effect of political enfranchisement of women on the level of the U.S. tariff. The empirical results strongly support the hypothesis. (*JEL* F4, D7, N4)

"I am convinced that at least two out of every three women have a grudge against the tariff, and a grudge which is all too frequently increased to an indignation by the subtle suggestion, on the part of importers and retailers, that the tariff adds to the prices of the things they buy. It is the women of the household who spend the husband's earnings—she has to make them go around, and anything which she is told adds to the prices of the things she buys naturally finds little excuse in her mind. Her attitude, regardless of logic, is a natural one. She doesn't stop to consider the part the tariff may have played in making her husband's earnings what they are, or in fact in making them possible at all, nor does she stop to consider the relatively minor part the tariff plays in the retail prices of the things she buys. She has never seen the tariff law, and so she cannot know that with such commodities as coal, coffee, tea, cocoa, furs and shoes on the free list, some explanation other than the tariff must account for the increased price of these things."
(Barbour, 1928)[1]

The notion that women and men hold systematically differing political preferences, that there is a "gender gap," is an old one in American politics. Even before the national enfranchisement of women in 1920, analysts and commentators attempted to identify issues on which such a gender gap would affect policy outcomes. One such issue was the tariff, with which we are concerned in this paper. The above passage from the January 1928 issue of the *Tariff Review* serves as an excellent text for our sermon. The logic of the argument is interesting: American women prefer a low tariff because a high tariff raises the prices of the things they purchase. Our paper represents this hypothesis as an extension of the Downs [1957]–Mayer [1984] political-economy model and then presents a simple empirical test of the hypothesis.

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1. W. Warren Barbour, in addition to being the President of the Linen Thread Company, was the President of the American Tariff League when the lecture from which this article was derived was given.

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We present our analysis in four major parts. First, we set the stage with a brief discussion of the political-economy of the tariff during the period relevant to our analysis [1890–1934]. This discussion provides motivation for the details of the more formal analysis in the following section. Next we develop the logic of the classic tariff system in the context of the Downs-Mayer model. The third section presents the testable proposition that the enfranchisement of women results in a lower equilibrium tariff as an implication of this model. In the final section we present our methodology and results.

I. THE POLITICAL-ECONOMY OF THE CLASSIC TARIFF SYSTEM

It is not unreasonable to think of the period from the end of the Civil War until 1934 as the era of classic tariff politics in the United States. During this period the tariff was a significant, partisan, electoral issue. Republicans were the party of the protective tariff, Democrats were opposed to the "tariff system." While there was regional variation with respect to details at the level of specific products, this characterization is quite accurate over the entire period with respect to overall commitment to the tariff system. Whether one studies political platforms or campaign speeches, this split between Republicans and Democrats remains clear.[2] Furthermore, there seems to be a fairly direct relationship between sectional economic interests and strength of partisan support: the industrial northeast was the historical center of Republicanism, while the rural south and mid-west was the center of Democrat support.

Another important aspect of the electoral politics during the era of classic tariff politics (from the perspective of this paper) was the essential one-dimensionality of "the tariff" as an issue.[3] That is, partisan conflict revolved primarily around support for, and opposition to, the tariff *system*—not the details of the tariff structure. It is important to recall that, during this period, the tariff was one of the few instruments of industrial policy available to the national government and, at least since the end of the Civil War, the tariff as an electoral issue was explicitly presented by both Democrats and Republicans as a system of support for American industry.[4] The details of the tariff schedule were determined by Congress, with the House Committee on Ways and Means taking the lead, in response to the lobbying pressure of organized economic interests, but the electoral competition between the Republicans and Democrats determined the context within which the lobbying took place. Thus, elections can be thought of as setting the average level of protection while lobbying determined the dispersion around that level. The one-dimensionality of the tariff as a political issue and the centrality of that issue to the political contest between Democrats and Republicans in the era of classic tariff politics is an essential element of the link between the theoretical development of this paper and the empirical work.

Given the centrality of the characterization of classic tariff politics to the research reported here, it is useful to briefly discuss the role of the tariff in the election of 1896. Political scientists and historians are in broad agreement that the McKinley-Bryan election

2. Thus, it should not be surprising that, over this entire period, final votes on tariff legislation consistently showed high levels of party-line voting. In fact, the tariff was usually one of the two or three most divisive issues.

3. In fact, this assertion does not meet with universal approval among historians of this period. While many assume that the close link between centers of partisan strength and aggregate economic interest signifies that the politics of the protective system reflected classic inter-regional redistributive politics (e.g. Taussig [1931]; Rogowski [1989]), a substantial school of research based on careful study of local political conditions suggests that this is too simple. Specifically, a number of prominent ethnocultural historians, have emphasized that "the tariff" had different meanings in different locations precisely because it was more important as a symbol than as a commitment to any particular policy. See especially: Jensen [1971]; Kleppner [1970]; and McSeveney [1972]. McCormick [1974] presents a convenient survey of this research. Thus, if "the tariff" was a sort of ideological portmanteau, our assumption that it is essentially one-dimensional is clearly problematic.

4. It is also important to recall that, unlike the modern trade policy system, it was the tariff (as legislated by Congress) that was the dominant instrument of industrial protection. For a detailed development of the argument that the classic tariff system was essentially one-dimensional while modern system is irreducibly multi-dimensional, see Nelson [1989].

was of particular political significance.[5] This was certainly true with respect to the tariff system, which faced its most sustained and explicit challenge in the 1896 election. Populists and Democrats under the general leadership of William Jennings Bryan offered a progressive income tax as a direct attack on the tariff system. Specifically, the income tax was to replace the tariff, which was seen not only as a symbol of the power of eastern industrial interests, but as a fundamental defender of those interests. At the same time, the populists sought to go beyond simply removing the tariff by proposing a progressive income tax that would fall most heavily on the holders of "money power."[6] Republicans, and conservatives generally (including important elements of the Democrat party), opposed the income tax. As Baack and Ray [1985a,b] point out, during the Civil War (the only U.S. experience with an income tax prior to the 20th century) the income tax fell particularly heavily on New York, Massachusetts and Pennsylvania—the centers of Republican power. The tariff, on the other hand, provided substantial benefits for those same states. Perhaps of equal importance, the tariff had for some time been an important symbol of government commitment to U.S. industry, while Bryan made the income tax a symbol of sectional and class struggle.

The rout of Bryan and the populists defended the classic tariff system from its most serious challenge and resulted in stable tariff politics until the emergence of the New Deal political system. A fundamental rethinking of the tariff system had to wait until the Reciprocal Trade Agreements Act of 1934. The reestablishment of control of the Democrat party by establishment Democrats permitted a return to classic tariff politics. Furthermore, this ultimately permitted the institutionalization of the income tax as a revenue raising device subordinate to the tariff.[7] Thus, even when the Democrats gained control of the White House and the Congress: there was no attempt to replace the tariff *system* (although there was some tariff reduction); the income tax was not used for redistributive purposes; and, as Baack and Ray [1985] point out, the structure of increased federal expenditures involved substantial benefits for the centers of Republicanism.

The purpose of this section has been to argue that the tariff constituted a significant issue, possibly the most significant continuing issue, in American electoral politics during the last part of the 19th century and the first part of the 20th century. Furthermore, we have argued that the electoral politics of the tariff can reasonably be characterized as one-dimensional. Finally, we have argued that both the politics of the tariff and the relationship of the tariff to the electoral/political system as a whole was relatively constant over this period. These aspects of the political-economy of the tariff undergird the theoretical and empirical analysis which is developed in the remainder of the paper. In the next section, we sketch a simple formal model of the political-economy of the classic tariff system in which the gender gap hypothesis plays a significant role.

II. THE POLITICS OF THE CLASSIC TARIFF SYSTEM IN THE DOWNS-MAYER MODEL

The spatial analysis of partisan competition that constitutes one essential element of Downs' [1957] economic theory of democracy

5. In the language of modern research on political history, the 1896 election was one of a small number of "critical elections." In fact, the electoral system defined by that election is generally referred to as the "system of 1896." On the general concept of critical elections and the periodization of American politics in those terms, see Burnham [1970], Sundquist [1973], and Clubb, Flanigan and Zingale [1980]. For more critical perspectives on critical elections, see: McCormick [1982] and Lichtman [1982]. With particular reference to the election of 1896 and the "system of 1896," see: Burnham [1981; 1986] and McCormick [1986].

6. Stewart [1980] and Hansen [1980] for excellent presentations of the politics of the income tax and its relationship to critical election theory. Also of interest is Hansen [1990].

7. This is an important point to which we shall return. While it is true, as a number of scholars have noted (e.g. Riezman and Slemrod [1987]), that there is a general relationship between the development of an income tax and the elimination of the tariff as a revenue raising device, the above discussion should make clear that this connection is far from direct in any particular case. In the U.S. case, it was precisely the agreement that the income tax would not constitute a threat to the tariff *system* that made adopting one politically feasible in the context of the "System of 1896." It was only with the collapse of the "System of 1896" and the emergence of the "New Deal System" that the classic tariff system could be dismantled and replaced with something else. Thus, while the existence of an alternative source of government revenue is a necessary condition to elimination of a protective system, it is not sufficient.

rests on two fundamental results: Black's [1948] theorem that if agents preferences over a one-dimensional political issue are single-peaked, then the most preferred point of the median voter cannot be beaten in a majority rule contest; and Hotelling's [1929] theorem that the most preferred point of the median voter is the Nash equilibrium of two-party competition over that dimension.[8] An important paper by Mayer [1984] applies the spatial model to the case of trade policy determination by deriving voter preferences over the tariff from a standard (Heckscher-Ohlin-Samuelson) trade theoretic model. In the Mayer model, every household is characterized by an endowment of productive factors and tastes (i.e., preferences over the consumption of goods and services). These endowments then determine household preferences over policy choices as these policies affect equilibrium factor and commodity prices. A full political-economic equilibrium is then determined through a majority-rule referendum on the tariff. Specifically, assuming that indirect utility functions are concave in the tariff, Mayer uses Black's theorem to analyze the effect of restricted franchise on the equilibrium tariff determined by a simple referendum.

Downs, however, is less interested in single-issue referenda than in the functioning of representative democracy in a complex and informationally rich political environment. The key contribution of Downs here is the notion of *rational ignorance*. The basic idea is that, since each agent has only a minuscule effect on the final outcome of the electoral contest, it is in no agent's interest to invest large resources in collecting or processing political information. This process of economizing on political information costs involves: conditioning voting behavior on low cost information; and using a simple evaluative scheme for processing that information. Both of these elements will be important to our analysis, but at this point we focus on the role of simple evaluative schemes. There are three key elements of such a scheme: it must be in common use throughout the electorate; must differentiate the parties; and it must be stable across time. The first point is obvious, if the evaluative scheme is not public and commonly understood, it cannot serve as a basis for partisan competition. The second is also straightforward, if parties engage in Hotelling-like clustering on the dimension it will not serve to reduce decision-making costs. The third element, intertemporal stability, is a bit less obvious, but very important: without such stability information costs would not really be reduced since voters would have to identify a new evaluative dimension in every election.

Downs discusses these issues in the context of a general left-right evaluative dimension.[9] Modern voters will normally conceive of this in terms of big government versus small government, or level of commitment to macroeconomic policy activism. That particular form of evaluative dimension is of fairly recent vintage. In fact, it is a property of what political scientists usually refer to as "the New Deal system." The main point of the first section of this paper, however, was to argue that from the end of the Civil War until some time in the early part of this century, The Tariff served as precisely such a Downsian issue. The purpose of the next section is to argue that female franchise marks the end of the tariff as such an issue.

III. THE GENDER GAP, FEMALE FRANCHISE AND THE EQUILIBRIUM TARIFF

We can capture the gender gap on the tariff issue with a simple extension of the Downs-Mayer model. We assume that every household consists of two individuals (with identical tastes) that specialize in their economic activities: one undertakes all factor-market transactions while the other undertakes all product market transactions. If, following Downs, we assume that individual agents economize on information costs in making their political choices by weighing more heavily the information they observe directly, then individuals within a single household have

8. See Enelow and Hinich [1984] for an excellent textbook treatment of the spatial model.

9. See Hinich and Munger [1994] for a current development of Downs theory of the role of ideology in electoral competition.

different political preferences.[10] For simplicity we use the assumptions that factor-market specialists (men) are only concerned with the effect of policy on returns to their household's factor endowment, while product market specialists (women) are only concerned with the effect of policy on the prices of consumption goods. In the language developed below, each household is seen as having a wealth effect voter and a consumption effect voter. We have therefore modeled exactly the "political gender gap" that concerned political activists at the time.

How reasonable are the special assumptions of our model for the classic tariff era in the United States? With respect to the specialization of household economic decisions, we are convinced that this assumption is completely unproblematic. Data on women's labor force participation in the period with which we are concerned [1890–1934] show a very clear pattern of exclusion of women from the formal workforce [Goldin, 1990].[11] With respect to the additional assumption that this specialization results in a political gender gap, we offer two lines of defense. First, contemporary political discussions, like the one cited at the beginning of this paper, suggest that political activists during this time period believed that such a gender gap existed. Assuming that policy is driven by the desire for reelection, a general belief in such a gender gap may be enough to cause a shift in trade policy whether such a gender gap actually existed or not. Second, given the specialization of decision-making within the household and the observation that information is generally costly to obtain, is seems perfectly rational that a household member would weigh more heavily that part of economic reality with which they are most directly concerned (i.e., the effects of policy on either factor or consumer prices). For simplicity we adopt the strong assumption that each is exclusively concerned with that part of economic reality with which they are most directly concerned.

The logic of the model should now be clear.[12] Prior to female franchise, the distribution of factor-ownership among households was such that the tariff could function as the Downsian issue dimension along which parties could differentiate themselves. Female franchise introduces a substantial population of people into the electorate that have preferences skewed toward lower tariffs. This has two empirical implications: the median voter now has a lower optimal tariff, and thus the equilibrium tariff must be lower; and the system of partisan competition based on the tariff must collapse. Before we turn to the econometric analysis of the first empirical implication in the next section, we can briefly consider the second.

10. We see this as directly related to Downs' [1957] notion of rationally ignorant voters. That is, politically relevant information is costly to obtain. As a result, voters will economize on information gathering. Furthermore, some information is relatively cheap, while other information is more costly. In our model we are assuming that factor-price information is observed freely by men and not at all by women, while commodity price information is observed freely by women and not at all by men. Neither is particularly concerned with the overall state of the economy as a whole. Each conditions both economic and political behavior on the information that is freely observed. While information may be exchanged between household members, each considers the information directly observed to be the most accurate information and essentially ignores other information. Some readers of this paper have found this assumption *ad hoc*. We would argue that it is no more *ad hoc* than the assumption of perfectly reliable information transfer.

Others have argued that the existence of a gender gap may flow from sources other than differential information. Most of the alternative accounts that have been suggested vary from the unlikely (e.g. perhaps female employment was concentrated in export-oriented sectors) to the genuinely silly (e.g. perhaps women were free traders because liberalization would cause relative price shifts that would change the balance of household bargaining power in their favor). However, our purpose in this paper is not to explain the gender gap, but to incorporate it in the corpus of endogenous tariff theory in a relatively straightforward way. We would argue that our differential information story does this effectively. The fact that this is consistent with contemporary accounts is simply an additional bonus.

11. According to Goldin [1990, Table 2.1] female labor force participation in 1890 was 18.9%, 20.6% in 1900 and 23.7% in 1920. This pattern is even clearer if we focus on women who were likely to be voters—i.e. middle class, white women. We do not have data by economic status, but the percentages for white, married women were 2.5%, 3.2%, and 6.5%. This can be compared to the labor force participation of males in these census years of 84.3%, 85.7%, and 54.3% (*Historical Statistics of the United States*, series D30).

12. In fact, while the general logic is straightforward, formally proving that the claims follow from the assumptions is far from easy. Hall and Nelson [1995] provides a detailed development and formal analysis of the gender gap model.

In his discussion of "The Origin of New Parties" (pp. 127–32), Downs argues that new parties emerge when the distribution of voters shifts in such a way as to make the initial equilibrium unstable. Downs' example is the effect of the extension of franchise to working class voters in the late-nineteenth century with the demise of the Liberal party, the birth of the Labor party and the realignment of British electoral politics. While Downs' analysis implies that events like franchise extension have no effect on the underlying dimension defining political competition, it should be clear that this is not necessarily implied by the analysis. In fact, research on party systems proceeding from the foundational work of V. O. Key [1955] and Walter Dean Burnham [1970] makes it clear that political realignments are essentially about the content of political contests (see footnote 5). Thus, although the institutional parties may (or may not) exist after a realignment, the membership and the terms on which the parties compete will be fundamentally changed—they will in effect be new parties. In the case which concerns us, the adoption of female franchise undermined the system of partisan competition based on the tariff in a particularly strong way: it created an expected majority of voters opposed to the platform of the previously dominant party.[13] That is, the "system of 1896" was dominated by the high tariff Republicans and the new voters would be expected to enter the electorate on the low tariff side of the low tariff party, thus undermining the commitment of the Republicans to the system. The result was not the elimination of either party, but the disappearance of the tariff as an electoral issue and the concomitant collapse of the "system of 1896."[14] It is in fact the case that the tariff played no role in partisan competition in the system that replaced the "system of 1896," generally referred to as the "New Deal system."[15]

Interestingly, while political scientists have been very clear on the political alignments that define the New Deal system, and their differences from the "system of 1896," there has always been a certain uneasiness in the dating of the system. The problem is that the alignments that define the system seem to have emerged from the politics of the depression, but the voting behavior that signals the realignment seems to precede the depression, or more precisely to phase in over a period of several years. Specifically, as Lichtman [1982] argues, it is difficult to find the kind of decisive changes in voting behavior over the period 1916–1940 that one would normally associate with a realignment. But this is exactly the kind of behavior predicted by the analysis developed in this paper: with the collapse of the tariff, both parties would seek to find a new issue around which to organize partisan competition; the search process would generate some period characterized by uncertainty; with a catastrophic event like the depression, however, a new system could form around alternative visions of the relationship between government and the economy. Thus, the macrohistorical evidence is consistent with our analysis. We now turn to an econometric evaluation of the microhistorical evidence.

IV. A SIMPLE TEST OF THE GENDER GAP HYPOTHESIS

The Downs-Mayer model is based on the notion of an equilibrium relationship between citizen preferences (derived from their factor-ownership positions and their consumption preferences) and policy outcomes. Previous

13. It is interesting to note that Downs explicitly rules out female franchise in this context: "A change in the number of voters *per se* is irrelevant; it is the distribution which counts. Hence, women's suffrage does not create any new parties, although it raises the total vote enormously." The main point of this paper is that, while Downs got the mechanism exactly right, female franchise did shift the distribution on the one issue that mattered to the stability of the system.

14. Note that the disappearance of the tariff as a political issue is not in any way the same thing as the disappearance of the tariff. In fact, once the tariff ceased to be an instrument of public partisan competition it was freed to become first an example of pure pork barrel politics and, with the recognition that the costs exceeded the benefits of treating trade policy as distributive politics, the Reciprocal Trade Agreements Act of 1934 redefined those politics in an essential way. See Nelson [1989] for a detailed development of this argument.

15. Note the implication for the equilibrium tariff. With the tariff no longer a Downsian valence issue both parties will converge on the optimal tariff of the median voter in Hotelling-Black fashion. Since under Republican domination the political equilibrium involved a tariff that was higher than the optimal tariff of the median voter even without female franchise, this implies that the equilibrium tariff would be even lower with female franchise.

time series research on the political economy of the tariff suggests that the tariff is a function of business cycle effects (proxied by either level of GNP or unemployment), international competition (trade balance or import penetration), party (the equilibrium tariff is lower with Democrats).[16] Our extension of the Downs-Mayer logic to the extension of voting rights to women suggests a straight-forward empirical test of that logic. Thus, the research reported in this section differs in two fundamental ways from the previous research by Magee and Young [1987] and Bohara and Kaempfer [1991a,b]. First, we focus only on the period of classic tariff politics. As we argue in section I, this period is characterized by a stable relationship between the tariff and the political system. Following the New Deal realignment, of which the Reciprocal Trade Agreements Act of 1934 was a fundamental part, virtually every aspect of the politics of trade policy underwent fundamental change. Second, and of more direct relevance to the major argument of this paper, we explicitly test for the impact of female franchise on the political economic equilibrium. This section presents the results of our analysis using annual data for the period 1866–1934 and 1896–1934.[17]

Table I contains several interesting results consistent with our hypothesis.[18] As previous research has already shown, we find that the domestic business cycle, the trade balance, and Democrat presidents all have the predicted effects. With respect to the gender gap hypothesis, assuming that the dummy variable accurately reflects the effect of female franchise, we find a strong effect, and we find this effect using a variety of domestic business cycle indicators, and we find this effect both from 1866–1934 and 1896–1934. Also of considerable interest is the lack of a significant effect for the income tax (as measured by the share of income tax revenue in total government revenue). This latter result seems to be consistent with our argument that the existence of the income tax (or some alternative source of revenue) was a necessary but not sufficient condition to the collapse of the classic tariff system. It has been the main argument of this paper that the politically necessary condition was the collapse of the distribution of voter preferences that allowed the tariff to function as a key issue in partisan competition.

Before considering the significance of female franchise result in more detail, we first discuss several possible objections to the result. A first objection is methodological and relates to our use of a dummy variable to capture the effect of female franchise. The fundamental difficulty here relates to the possibility that the dummy variable is actually picking up some other politically significant phenomenon. Although our search for obviously compounding events has not turned up anything, it remains the case that a dummy variable is far from ideal.[19]

16. The majority of empirical research on the political economy of the tariff emphasizes sectoral dispersion of the tariff. Baldwin [1984], Anderson and Baldwin [1987], and McCarthur and Marks [1989] are convenient surveys of the research on tariff dispersion. Of particular note for the research presented here are the papers explaining tariff dispersion in the era of classic tariff politics: Pincus [1975]; Baack and Ray [1983], Eichengreen [1989] and Conybeare [1991].

17. The dependent variable in the analysis is the average tariff (in logarithms: tariff revenue/total dutiable imports). Our measures of domestic macroeconomic conditions are the unemployment rate, the real wage, and GNP, and our measure of international competitive conditions is the trade balance (= export value − import value). The source for these data is the *Historical Statistics of the United States*: total imports (Series U194); total exports (series U191); total dutiable imports (series U209); total duties (series U210). The income tax revenue and total government revenue series are from the same source. Unemployment rate, nominal and real GNP, and inflation are from the series in the appendix to Gordon's *Macroeconomics*, and the real wage series is reported in Williamson [1995]. All variables are in logs except trade balance (which takes negative values) and income tax/total government revenue (which takes zero values in many years).

To examine the effect of female franchise, we used a dummy variable which takes a value of 0 for the period 1890–1919 and 1 from 1920–1934. As we suggest in the text, the parties had very clearly defined preferences on trade policy. We attempt to control for partisan effects with a dummy variable for party of the president (Democrat = 1; Republican = 0).

18. At the suggestion of a reviewer, we ran all six versions of the model in first differences as a simple specification test. In all cases, both the signs and the significance levels of the parameters are unchanged. These results are reported in the Appendix.

19. It is, however, the case that we have explicitly considered the effect of the most commonly mentioned alternative (the income tax) as well as trade balance, business cycle, and partisan competition. Since we have discussed this in detail elsewhere we simply note that the other events that have been suggested bear no essential relationship to the politics of the tariff, whereas the burden of the argument in this paper is that there is a good theoretical reason for believing that female franchise does bear such a relationship.

TABLE I

Tariff Regression with Correction for First-Order Auto Correlation

Dependent variable is: log average tariff: = log[(tariff revenue)/(dutiable imports)]						
	Sample: 1866-1934*			Sample: 1896-1934		
Constant	4.567734 (1.873522)	5.843697 (2.812331)	5.471275 (0.004259)	6.193553 (0.542278)	6.04956 (3.37549)	9.187024 (1.216581)
Log Unemployment	0.082331 (3.386318)			0.068164 (2.531519)		
Log Real Wage		–0.681683 (–2.819363)			–0.383527 (–1.05812)	
Log GNP			–0.406195 (–3.581158)			–0.555830 (–3.661883)
Trade Balance	–1.38 E-07 (–5.757670)	–0.002044 (–4.789279)	–1.01 E-07 (–4.271370)	–1.36 E-07 (5.129258)	–1.30 E-07 (–3.85886)	–9.66 E-08 (–3.907073)
Income Tax/Gov. Rev.	–0.000833 (–0.443393)	–0.002044 (–1.125129)	0.000472 (0.256167)	–0.002218 (–1.076921)	–0.002703 (–1.26845)	–0.000533 (–0.277640)
Women (= 1 if ≥ 1920)	–0.618024 (–6.379683)	–0.505995 (–5.602589)	–0.375911 (–4.171849)	–0.606676 (–5.763565)	–0.454826 (–4.39304)	–0.398334 (–4.345118)
President (= 1 if Dem)	–0.59666 (–1.950104)	–0.058670 (–1.924111)	–0.066954 (–2.260095)	–0.128234 (–2.883867)	–0.137080 (–2.82323)	–0.129501 (–3.189056)
AR(1)	0.987012 (25.26011)	1.017366 (40.45140)	1.000009 (48.30749)	0.991312 (21.11983)	0.982319 (45.3261)	0.988495 (37.00511)
R-Squared	0.880247	0.873116	0.880989	0.918645	0.764261	0.932527
Adjusted R-Squared	0.897859	0.860837	0.869472	0.903391	0.728543	0.919876
S.E. of Regression	0.708161	0.078861	0.076375	0.082064	0.89538	0.074735
Durbin-Watson	1.730452	1.867852	1.651519	1.998700	1.39569	1.975787
F-statistic	71.05523	71.10577	76.49328	60.22272	19.3674	73.71084
Prob(F-statistic)	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

t-statistics in parentheses

*Detailed descriptions of variables are in footnote 17. Log unemployment is 1870–1934.

A second objection to our interpretation of the results flows from the fact that women did not vote in significant numbers even after they were enfranchised. First, it follows from the work of Fenno [1978] and Cain, Ferejohn and Fiorina [1989] that people need not vote to be considered in the political calculus of reelection maximizing politicians, they only need to be able to vote. Furthermore, some women did vote. Both of these facts are sufficient to change the location of the median voter if women's preferences are as characterized in section II.

A third objection is that women already had the franchise before 1920 in several states. The first line of response to this is that, as with the previous point, all that is necessary with respect to the model developed in section II is that a large group of women entered the electorate in 1920. The fact that some states had already experienced this phenomenon would weaken the effect and make it harder to establish the result. More importantly, virtually all the early franchise states were Western states and, thus, generally supporters of trade liberalization in any event. Thus the identity of the median legislator would not be affected by these early franchise states. The gender gap should be strongest in the Northeast.[20]

Finally, there were women in the labor force, and working women (by the logic of this paper) should have the same preferences as men with respect to the tariff. We have already noted that female labor force participation was considerably lower than male labor force participation and that this was even more striking for what we can think of as "voting women"—i.e. middle class women. These facts suggest that the median preferences of women with respect to the tariff are for lower tariffs. Furthermore, contemporary accounts suggest that politicians believed women to have a preference for lower tariffs.

Thus, we believe that the results reported here provide strong, preliminary evidence for the effect of female franchise on the level of the average tariff. That is, there was a gender gap on the tariff. If this result stands up to further scrutiny, it is important for several reasons. First, it has been an open question in political science for some time whether or not female franchise had any politically significant impact at the time it occurred. It has been argued that, as new voters, women were not well socialized and, therefore, did not vote or voted in ways that reduced their impact as a group with common interests. Most of this research proceeds by studies of their voting behavior (e.g. Kleppner [1982] on turnout) and/or the activities of women's political organizations [Andersen, 1990]. The research reported here, by focussing directly on an issue over which men and women were presumed to disagree, provides some direct evidence of an immediate political impact of female franchise. Furthermore, not only is the effect of female franchise positive but, from the macrohistorical perspective, it is of substantial historical interest. Specifically, we argued at the end of section III that female franchise caused the collapse of the system of 1896 and created the conditions in which the New Deal system could be born.

A similar logic provides a more compelling account for Congress' adoption and continued support for the Reciprocal Trade Agreements Act of 1934. This act institutionalized an alternative approach to Congressional management of U.S. trade policy. The standard account of support for the RTAA asserts that Congress collectively learned a lesson from the Smoot-Hawley tariff. Unfortunately, there are two serious problems with this account. First, there is virtually no contemporary evidence of such a change. That is, there are no significant instances of individual members of Congress making this connection. Second, the changes in voting behavior that would be assumed to go along with such learning do not occur until well into the 1950s [Nelson, 1989]. There is a good reason why we should not observe changed political behavior: there is no systematic evidence of a strong economic connection between the Smoot-Hawley tariff and the severity of the depression [Eichengreen, 1989]. This has led to an alternative account, based in part on Schattschneider's [1935] classic account of the making of the Smoot-Hawley tariff: Congress delegated the making of the trade policy to the President because the writing of tariffs

20. There may even be a certain degree of endogeneity here. That is, given the centrality of the tariff to political contestation, women were more easily enfranchised where they least threatened the political equilibrium.

had become too time consuming and too politically difficult. The problem with these accounts is timing. The logic is straightforward and compelling, but why after Smoot-Hawley? The argument of this paper suggests a simple answer: with the collapse of the tariff as an organizing structure in partisan competition, there was no longer any reason to continue.

V. BY WAY OF A CONCLUSION: IMPLICATIONS FOR FUTURE RESEARCH

One interesting implication of this result for future research is that, once the labor market status of women becomes more like that of men, we would expect their political preferences with regard to trade policy to become more similar.[21] Using labor market participation data, we should, in principle, be able to study this effect directly. We say "in principle" not because there are fundamental problems with measuring women's labor force participation, but because measuring the average level of protection during the GATT era is difficult. Not only is there no longer direct legislation of protection, but there has been steady substitution of non-tariff for tariff barriers over the entire period; and trade economists have still not found satisfactory ways of measuring the economic effects of such barriers. Nonetheless, we find it at least suggestive that trade policy activism has made a substantial recovery as a public political issue in the 1990s—a period of substantially increased female labor force participation.

The second contribution of this paper relates to the direct link between endogenous tariff theory and empirical tariff politics. Much of the casual empiricism which is attached to the theoretical work on endogenous tariff theory implies a fairly direct relationship between those models and the political-economy of current trade policy. This is clearly inappropriate. As we have just commented, and as is well known in policy discussions: modern trade policy is not about tariffs; and modern trade politics has not been about elections. Most endogenous tariff theory is of direct application only to the period of classic tariff politics. Pincus [1975], Baack and Ray [1983], Eichengreen [1989], and Conybeare [1991] demonstrate the usefulness of lobbying models for the explanation of tariff dispersion, while the research reported here illustrates the value of voting models for the explanation of the average tariff.

This suggests two important directions for future research. First, we need to move toward models that integrate the electoral process (to set the average propensity to protect) with lobbying models (to determine dispersion). Preliminary steps are taken in this direction by Hall and Nelson [1992] via their introduction into a standard lobbying model of an explicit parameter for tariff resistance. Perhaps more importantly, we need to develop better models of the political-economy of protection in the GATT era. This is difficult primarily because trade policy has become inherently multidimensional. Instead of "the tariff" as an electoral issue there is market access, unfair competition, and trade liberalization to name only a few. This makes the formal characterization of trade policy as either an electoral or a lobbying issue difficult.

Third, and finally, the research reported here is significant because it links political exclusion to an economically relevant social category: gender. Mayer's [1984] important work showed the potentially significant impact of political exclusion on equilibria of endogenous policy models. However, Mayer's analysis is difficult to test because the relevant patterns of political exclusion (i.e. factor-based exclusion) have not generally been observed in modern American politics. By focussing on gender-based exclusion we have moved toward a more testable version of the Downs-Mayer model.

21. Recent research by Claudia Goldin [1991] suggests that World War II was not the major turning point in women's labor market status that it has sometimes been taken to be. However, this argument relates as much to the social context of increased employment as to the economic. With respect to the issue raised in this paragraph, while the actual social turning point with respect to women's labor force participation may have been later than the 1940s, it seems uncontroversial to suggest that it did come at some point in the post-War era.

APPENDIX

Tariff Regression in First Differences

Dependent variable is: d [log average tariff]: = d [log[(tariff revenue)/(dutiable imports)]]	Sample: 1866–1934*			Sample: 1896–1934		
Constant	0.009552 (0.979583)	0.20797 (1.974730)	0.019926 (2.101442)	0.019020 (1.435564)	0.033281 (2.226918)	0.032407 (2.431645)
Log Unemployment	0.081981 (3.425589)			0.067682 (2.579471)		
Log Real Wage		–0.646623 (–2.646585)			–0.835209 (–2.214109)	
Log GNP			–0.410371 (–3.868734)			–0.453718 (–3.201624)
Trade Balance	–1.39 E-07 (–5.981067)	–1.17 E-07 (–4.852624)	–1.06 E-07 (–4.569455)	–1.35 E-07 (–5.432777)	–1.09 E-07 (–3.062661)	–9.79 E-08 (–3.811903)
Income Tax/Gov. Rev.	–0.000890 (–0.487831)	–0.001999 (–1.116589)	–2.30 E-05 (–0.012882)	–0.002223 (–1.137583)	–0.002923 (–1.494483)	–0.001032 (–0.525418)
Women (= 1 if ≥ 1920)	–0.624061 (–6.538465)	–0.496602 (–5.516869)	–0.417814 (–4.746529)	–0.607839 (–5.977995)	–0.497814 (–5.174526)	–0.410187 (–4.319155)
President (= 1 if Dem)	–0.060369 (–2.009776)	–0.057589 (–1.885484)	–0.066392 (–2.308896)	–0.129569 (–3.020194)	–0.121992 (–2.717732)	–0.138653 (–3.417684)
R-Squared	0.533236	0.491496	0.543429	0.681109	0.666373	0.707628
Adjusted R-Squared	0.493680	0.451139	0.507193	0.632792	0.615824	0.663329
S.E. of Regression	0.077561	0.078535	0.074417	0.080861	0.082709	0.077426
Durbin-Watson	1.740095	1.837231	1.697242	2.012333	1.998904	2.046971
F-statistic	13.48044	12.17857	14.99702	14.09670	13.18258	15.97396
Prob(F-statistic)	0.000000	0.000000	0.000000	0.000001	0.000000	0.000000

t-statistics in parentheses, all variables are differenced once.

*Detailed descriptions of variables are in footnote 17. Log unemployment is 1870–1934.

REFERENCES

Andersen, Kristi. "Women and Citizenship in the 1920's," in *Women, Politics and Change*, edited by Louise Tilly and Patricia Gurin. New York: Russell Sage Foundation, 1990, 177–98.

Anderson, Kym, and Robert Baldwin. "The Political Market for Protection in Industrial Countries," in *Protection, Cooperation, Integration and Development*, edited by A. M. El-Agraa. London: Macmillan, 1987, 20–36.

Baack, Ben, and Edward Ray. "The Political Economy of Tariff Policy: A Case Study of the United States." *Explorations in Economic History*, January 1983, 73–93.

______. "Special Interests and the Adoption of the Income Tax in the U.S." *Journal of Economic History*, September 1985a, 607–25.

______. "The Political Economy of the Origin and Development of the Federal Income Tax," in *Emergence of the Modern Political Economy*, edited by R. Higgs. Greenwich: JAI Press, 1985b, 121–38.

Baldwin, Robert. "Trade Policies in Developed Countries," in *Handbook of International Economics*, edited by R. Jones and P. Kenen. Amsterdam: North-Holland, 1984, 571–619.

Barbour, W. Warren. "The Protective Tariff—On the Defensive." *The Tariff Review*, January 1928, 3–6, and 29.

Black, Duncan. "On the Rationale of Group Decision-Making." *Journal of Political Economy*, February 1948, 23–34.

Bohara, Alok, and William Kaempfer. "A Test of Tariff Endogeneity in the United States." *American Economic Review*, September 1991a, 952–60.

______. "Testing the Endogeneity of Tariff Policy in the U.S.: Further Evidence." *Economics Letters*, March 1991b, 311–15.

Burnham, Walter Dean. *Critical Elections and the Mainsprings of American Politics*. New York: Norton, 1970.

______. "The System of 1896: An Analysis," in *The Evolution of American Electoral Systems*, edited by P. Kleppner, et al. Westport: Greenwood Press, 1981, 147–202.

______. "Periodization Schemes and 'Party Systems': The System of 1896 as a Case in Point." *Social Science History*, Fall 1986, 263–314.

Cain, Bruce, John Ferejohn, and Morris Fiorina. *The Personal Vote*. Cambridge, Mass.: Harvard University Press, 1989.

Campbell, Bruce, and Richard Trilling. *Realignment in American Politics: Toward a Theory*. Austin, Tex.: University of Texas Press, 1980.

Clubb, Jerome, William Flanigan, and Nancy Zingale. *Partisan Realignment: Voters, Parties, and Government in American History*. Beverly Hills, Calif.: Sage, 1980.

Conybeare, John A. C. "Voting for Protection: An Electoral Model of Tariff Policy." *International Organization*, Winter 1991, 57–81.

Downs, Anthony. *An Economic Theory of Democracy*. New York: Harper-Collins, 1957.

Eichengreen, Barry. "The Political Economy of the Smoot-Hawley Tariff." *Research in Economic History*, 12, 1989, 1–43.

Enelow, James, and Melvin Hinich. *The Spatial Theory of Voting: An Introduction*. New York: Cambridge University Press, 1984.

Epstein, David, and Sharyn O'Halloran. "The Partisan Paradox and the U.S. Tariff, 1877–1934." *International Organization*, Spring 1996, 301–24.

Fenno, Richard. *Home Style*. Boston: Little-Brown, 1978.

Gardner, Grant, and Kent Kimbrough. "The Behavior of U.S. Tariff Rates." *American Economic Review*, March 1989, 211–18.

Goldin, Claudia. *Understanding the Gender Gap: An Economic History of American Women*. New York: Oxford University Press, 1990.

______. "The Role of World War II in the Rise of Women's Employment." *American Economic Review*, September 1981, 741–56.

Hall, H. Keith, and Douglas Nelson. "Institutional Structure and the Political-Economy of Protection: Administered versus Legislated Protection." *Economics and Politics*, March 1992, 61–77.

______. "Women and Tariffs, II: A Formal Analysis of the Gender Gap Extension of the Downs-Mayer Model." Massachusetts: Tulane University, 1992.

Hansen, John Mark. "Taxation and the Political Economy of the Tariff." *International Organization*, Autumn 1990, 526–49.

Hansen, Susan B. "Partisan Realignment and Tax Policy: 1789–1976." Campbell and Trilling, 1980, 288–323.

Hinich, Melvin, and Michael Munger. *Ideology and the Theory of Political Choice*. Ann Arbor: University of Michigan Press, 1994.

Hotelling, Harold. "Stability in Competition." *Economic Journal*, March 1929, 41–57.

Jensen, Richard. *The Winning of the Midwest: Social and Political Conflict, 1888–1896*. Chicago: University of Chicago Press, 1971.

Key, V. O. "A Theory of Critical Elections." *Journal of Politics*, February 1955, 3–18.

Kleppner, Paul. *The Cross of Culture: A Social Analysis of Midwestern Politics, 1850–1900*. New York: Free Press, 1970.

______. "Were Women to Blame? Female Suffrage and Voter Turnout." *Journal of Interdisciplinary History*, Spring 1982, 621–43.

Lichtman, Allan. "The End of Realignment Theory? Toward a New Research Program for American Political History." *Historical Methods*, 15(4), 1982, 170–88.

Magee, Stephen P., and Leslie Young. "Endogenous Protection in the United States, 1900–1984," in *U.S. Trade Policies in a Changing World Economy*, edited by R. Stern. Cambridge, Mass.: MIT, 1987, 145–95.

Mayer, Wolfgang. "Endogenous Tariff Formation." *American Economic Review*, December 1984, 970–85.

McCarthur J., and S. Marks. "Empirical Analyses of the Determinants of Protection: A Survey and Some New Results," in *International Trade Policies: Gains from Exchange Between Economics and Political Science*, edited by J. Odell and T. Willett. Ann Arbor: University of Michigan Press, 1989, 105–39.

McCormick, Richard L. "Ethno-Cultural Interpretations of Nineteenth-Century American Voting Behavior." *Political Science Quarterly*, June 1974, 351–77.

______. "The Realignment Synthesis in American History." *Journal of Interdisciplinary History*, Summer 1982, 85–105.

______. "Walter Dean Burnham and the 'System of 1896'." *Social Science History*, Fall 1986, 245–62.

McSeveney, Samuel T. *The Politics of Depression: Political Behavior in the Northeast, 1893–1896*. New York: Oxford University Press, 1972.

Nelson, Douglas R. "The Domestic Political Preconditions of U.S. Trade Policy: Liberal Structure and Protectionist Dynamics." *Journal of Public Policy*, 9(1), 1989, 83–108.

Pincus, J. J. "Pressure Groups and the Pattern of Tariffs." *Journal of Political Economy*, August 1975, 757–78.

Riezman, Raymond, and Joel Slemrod. "Tariffs and Collection Costs." *Weltwirtschaftliches Archiv*, 123(3), 1987, 545–49.

Rogowski, Ronald. *Commerce and Coalitions: How Trade Affects Domestic Political Alignments*. Princeton: Princeton University Press, 1989.

Schattschneider, E. E. *Politics, Pressure and the Tariff*. New York: Prentice Hall, 1935.

Stewart, Charles. "The Federal Income Tax and the Realignment of the 1890s." Campbell and Trilling, 1980, 263–87.

Sundquist, James L. *Dynamics of the Party System*. Washington, D.C.: Brookings, 1973.

Taussig, F. W. *The Tariff History of the United States*. New York: G. P. Putnams, 1931.

Williamson, Jeffry. "The Evolution of Global Labor Markets Since 1850: Background Evidence and Hypotheses." *Explorations in Economic History*, April 1995, 1–54.