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A General Overview of the Political Economy of Trade

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Abstract

Economists have long promoted free trade but have yet to see it fully in practice. In an attempt to

find a solution to this dilemma, Grossman and Helpman in their 1994 paper "Protection for Sale"

established politics, and especially special interest groups, as the culprit for protectionism. Their

model spurned a new era of intensive research into the political economy of trade. My objective is

to give an overview of the Grossman and Helpman model and the models that are based on it, by

exploring each model's assumptions, mechanisms, results, and implications. The Grossman and

Helpman model is more successful at explaining empirical evidence for free trade than most other

research that has followed, but it would have been enriched by the incorporation of a large country

case and foreign policy.

Keywords: political economy of trade, Grossman and Helpman, protectionism

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A General Overview of the Political Economy of Trade

Introduction

One of the few issues on which all economists can agree is the argument for free trade. On the efficiency side, free trade eliminates the distortion of economic incentives of both producers and consumers, produces economies of scale, and provides opportunities for learning and innovation on the part of firms. Why is it, then, that one does not see free trade in practice? There has been much literature published on the answer to this query, and one main culprit has been established: politics. Since free trade is welfare improving only in a static setting of perfect competition, and because no country in the world adheres to a laissez-faire economic policy, trade restrictions may be better welfare-improving mechanisms than free trade. However, political commitment to free trade may be a good idea in practice, mainly because it will result in smaller tariff and non-tariff barriers. This move towards free trade will result in greater welfare for the nation as a whole rather than just for the industry being protected, and it will eliminate production and consumption distortions.² In terms of social welfare, the costs of deviating from free trade are large. This is because any government wishing to intervene in trade will realistically fall prey to interest groups, and the barrier to trade will become a device for redistributing income to politically influential sectors.³ Despite the benefits of free trade, practically all governments engage in protectionist policies.

The relatively new field of political economy has been especially beneficial to explaining the absence of free trade. Searching for a universally applicable theory of political equilibrium is a futile exercise. Each country has a unique political structure and social concerns affecting political outcome. In general there are too many vagaries implicit in the political system of each nation for there to exist one coherent theory to explain it all – one has only to look at the successes of George W. Bush in the American presidential elections or Jean Marie Le Pen in the first round of the

¹ Krugman, Obstfeld (2000), 219

² Krugman, Obstfeld (2000), 219

³ Krugman, Obstfeld (2000), 221

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French presidential elections to see this. In the matter of trade, however, we can leave the countries' idiosyncrasies in the background since patterns of trade protection do not diverge much from country to country. The political economy of trade allows us to focus on how the interaction of politics and economics determines protection patterns across nations.

In September 1994 Gene M. Grossman and Elhanan Helpman published an article entitled "Protection for Sale" in *The American Economic Review*, in which they cite special interest groups as a main reason for the lack of free trade. The model they introduced began a new era of intensive research into the political economy of trade. In this paper I hope not to prove or disprove the Grossman and Helpman model (hereafter referred to as GH) itself and the subsequent models based on that model; rather, I wish to provide a coherent survey of the post-GH literature and their attempts to explain tariff patterns. I review the GH model and provide criticism of it from different sources, concluding with an empirical study done on the GH model. Because the GH model does have its limitations, in the end I provide an alternative model to the special interest model. In each section I attempt to describe the assumptions, mechanisms, results, and implications of the particular model.

Grossman and Helpman's Political Support Approach

If we were to judge solely on the basis of amount of follow-up research that a model has inspired, then Grossman and Helpman's political support approach to trade is inarguably the fundamental model of trade policy. In their 1994 paper "Protection for Sale," Grossman and Helpman describe the structure of trade policy, using the political support approach pioneered by Stigler (1971)⁴ and studied by Hillman (1982)⁵ to explain which interest groups achieve their goals, and why lobbies have preferences in the first place.

⁴ Sigler, George J. "The Theory of Economic Regulation." *Bell Journal of Economics*, Spring 1971, 2(1), pp. 359-365.

The Grossman and Helpman model considers a small, competitive economy that faces exogenously given world prices. As a simplifying assumption, free trade is the optimal policy for this economy. There exists a continuum of individuals with identical preferences but different factor endowments. The subutility functions are differentiable, increasing, and strictly concave, and the aggregate gross welfare is equal to aggregate income plus trade tax revenues plus total consumer surplus. There are n + 1 inputs, labor and one sector-specific input for each sector. Good 0 is the numeraire, and it is produced from labor alone with constant returns to scale and an input-output coefficient ration equal to 1. The wage rate equals 1 in a competitive equilibrium. Each of the other goods uses labor and the sector-specific input in production. There is no inter-sectoral mobility. The government implements trade taxes and subsidies. The GH model revolves around tariffs because it is the most direct way trade policy can be endogenized to link the level of a particular trade policy instrument to the amount of lobbying resources deployed by contending organized groups.⁶

Lobbies represent industry interests. The lobbies and the government participate in a two-stage noncooperative game where the lobbies choose their political contribution schedules in the first stage and the government sets its policy in the second, knowing that contributions depend on selected policies. In the words of GH, the "politicians' penchant for campaign gifts thus makes 'protection for sale.'" GH are mainly concerned with the second stage in which the politicians maximize a political objective function that depends on contributions and the well being of the general public. The subgame-perfect Nash equilibrium of the trade-policy game restricts each lobby's contribution schedule to be among those that are feasible, meaning that the contributions are nonnegative and no greater than the aggregate income available to the lobby's members. Given the

⁵ Hillman, Arye L. "Declining Industries and Political-Support Protectionist Motives." *American Economic Review*, December 1982, 72(5), pp. 1180-87.

⁶ Grossman, Helpmann (1994), 836-7.

⁷ Grossman, Helpmann (1994), 835.

other contribution schedules, the government chooses the trade policy that will maximize its own welfare; and for each lobby, the equilibrium price vector must maximize the joint welfare of that lobby and the government, given the other lobbies' contribution schedules. GH add the truthful contribution function to this model, inducing the government to behave as though it were maximizing the social welfare function that weights different members of society differently, with those individuals represented by a lobby receiving greater weight. When all voters belong to interest groups and all sectors in society are represented, then free trade prevails.

The results of the GH model show that when a single lobby faces no opposition from competing interest groups, it captures all of surplus from its political relationship with the government. When all voters are members of a lobby, rivalry among competing interests is intense, and the government plays the rivalries off of one another to capture the entire surplus. With no political rivalry between special interests, each industry group captures the entire surplus from its own political relationship with the government. Thus the emphasis of the GH model is on distributional considerations, because trade policy functions as a device to transfer income to preferred groups in society.

The GH model also stipulates that the level of protection that an industry receives increases when domestic output is larger and decreases the higher the import elasticity of a sector. Regarding the first result, if domestic output is larger, then specific-factor owners gain from the increase in domestic price induced by the tariff. If the volume of imports is lower, then the economy has less to lose from protection. With regard to import elasticity, when the import elasticity is higher, the

⁸ Grossman, Helpmann (1994), 839.

⁹ Grossman, Helpmann (1994), 845-6.

¹⁰ Helpman, Elhanan, "Politics and Trade Policy," in D. M. Kreps and K. F. Wallis (eds.), *Advances in economics and econometrics: Theory and applications*, Volume II. Cambridge: Cambridge University Press, 1997, p. 19.

deadweight loss from protection is also higher, so the government will be less likely to grant protection.¹¹

Many models have built on the GH model of trade structure, but GH has proven time and again to give the best results in the outcome of trade policy. The problem is that, the more complex a model becomes, the greater the likelihood that it will deviate from the empirical evidence. Political outcomes are not subject to rationality alone after all. There are, however, two aspects that GH could have incorporated to make the structure of trade more realistic. For one, GH only deal with the small country case, for which no tariff is the optimal tariff. Large countries, however, in their ability to shape world prices, can impose a positive tariff and maximize welfare. The GH model, then, is not thoroughly equipped to explain trade policy of the United States, or, increasingly, that of the European Union. Secondly, there is no discussion in GH of international countries' influence on the trade policies of the home country. GH themselves suggest that one could assess the international "rules of the game," but to do so one must limit the policy choices open to national governments. The foreign country's policies impact the home country's policies in this case, and the nature of strategic interaction between the elected officials and their constituents is changed. Mutual agreement helps to mobilize support for freer trade, and negotiated agreements on trade can help governments to avoid getting caught in destructive trade wars.

Rodrik's Trade Survey

Rodrik wrote the "Political Economy of Trade Policy" in 1995 to give a bird's eye view of the literature in existence and to offer his advice on what approach one should adopt next. We enter into a brief discussion of his paper because his insights are particularly helpful. Rodrik presents us with a small open economy, similar to the GH economy. On the supply side of the economy, he adds that one could use a specific-factors framework or the Heckscher-Ohlin framework to index

¹¹ Goldberg, Maggi (1999), 1139.

the specific factors involved in production (i.e., GH's sector-specific input). He points out that income distributional effects are stark in the specific-factors and Heckscher-Ohlin (H-O) models. In the former, a tariff in one sector increases the return to the specific factor in that sector, while harming returns to other specific factors though the induced increase in wages. In the latter, a tariff raises the real return to the economy's scarce factor and reduces the real return to the abundant factor, making the individual specialized in the scarce factor better off. ¹² As an alternative, Rodrik posits a model of intra-industry trade where the distributional implications are less than those associated with specific factors and H-O frameworks. He considers an economy with two sectors and two factors, and that one sector produces differentiated goods under increasing returns to scale. He only minimally formulates the mechanism of this framework, leading us directly to the conclusion: the presence of increasing returns to scale generates a motive for trade, specifically intra-industry trade, even if there are no differences in relative factor endowments across countries. Intra-industry trade will also make everyone better off by increasing the number of varieties available for consumption without reducing income. 13 However, Rodrik fails to develop this model any further, or to give accurate reasons why intra-industry trade is better. Instead, he moves on to the different existing models, but we will only consider his critique of GH for our purposes.

Rodrik believes that a great advantage of the GH model is its endogenous derivation of the contribution schedules of competing lobbies.¹⁴ With this GH provide a link between a tariff and the amount of lobbying resources used by competing special interest groups.¹⁵ GH still maintain a fairly general framework to allow room for the variation among countries concerning their average levels of protection. However, GH's contribution to the field of political economy is weakened by the fact that only a small portion of lobbying activity in real politics takes the form of financial

¹² Rodrik (1995), 1462.

¹³ Rodrik (1995), 1462-3.

¹⁴ Rodrik (1995), 1469.

¹⁵ Rodrik (1995), 1463.

contributions.¹⁶ The amount of influence a special interest group exerts depends primarily on information transmission, by way of mail, discussion, etc., since their purpose is to persuade a politician. In addition, the policy interventions in trade do not constitute an effective redistribution mechanism because politically influential groups can be made better off by trade intervention.¹⁷ As mentioned in footnote 10, Helpman himself admits that his was a model of redistribution. Rodrik's critique is that other papers have thus followed suit, and one has yet to develop a model for the political economy of trade proper rather than redistribution. Furthermore, the GH model predicts that industries with high levels of output relative to respective trade volumes will receive more protection, but in that case, we should see a bias towards export subsidies, and not towards import tariffs.

According to Rodrik, the protection received by an industry is higher when the following conditions apply: An industry that is a labor-intensive, low-skill, low-wage industry¹⁸ will receive higher protection because the government, out of concern for the people's welfare, will attempt to reduce income inequality via tariffs to sectors that employ low-income, unskilled workers, thereby raising the living standards of the lowest income groups.¹⁹ When it has high import penetration,²⁰ the industry will be protected because of the comparative cost model:²¹ the special interest groups will have their personal income at stake and lobby even harder to win protection from the government, and the government perceives them as needing protection. An industry that produces consumer goods rather than intermediate goods²² will have a greater probability of being protected because consumer goods are more inelastic than intermediate goods. Tariffs are also higher when

¹⁶ Rodrik (1995), 1469.

¹⁷ Rodrik (1995), 1470.

¹⁸ Rodrik (1995), 1481.

¹⁹ Gawande, Krishna (2001), 3.

²⁰ Rodrik (1995), 1481.

²¹ Gawande, Krishna (2001), 4.

²² Rodrik (1995), 1481.

production is regionally concentrated, ²³ and I give a thorough explanation of that in my discussion of the Willmann model towards the end. The industry that engages little in intra-industry trade will receive higher protection²⁴because more intra-industry trade means that the products are differentiated; with industries that compete with the exact same products, one or more will be less efficient than the other, and protection will be necessary to keep that industry alive.

Taking into consideration all of the industries that receive high levels of protection, a point of departure might be to take one of those aspects and formulate a model based on it. Another approach may be to begin with empirical evidence and then form a model, instead of the other way around, as GH did with their research but others have failed to do since. Rodrik also suggests that new models concerning the political economy of trade should highlight the political advantage of trade policy in redistributing income over more direct policy instruments, because a good explanation of preference for trade-restricting policies over trade-promoting ones is currently lacking.²⁵ GH and others who have followed suit have done well to say that tariffs are a form of income redistribution, but they do not say why it is a preferred method than anything else that may exist. One more suggestion for further analysis on trade is to formulate a model on Rodrik's increasing returns to scale framework, which he loosely delineated but for which he did not provide empirical support or in-depth explanations.

Gawande and Krishna's Trade Survey

Gawande and Krishna wrote "The Political Economy of Trade Policy: Empirical Approaches" in 2001 in order to show how well the empirical evidence supports the models that have arisen thus far, and to explain that sub-optimal policies are often chosen, in contrast to what

²³ Rodrik (1995), 1481. ²⁴ Rodrik (1995), 1481.

²⁵ Rodrik (1995), 1490.

the models stipulate, because trade policies are not set by those who seek to maximize economic efficiency.

Gawande and Krishna provide an overview of all the models currently at hand, but the ones that crop up the most frequently outside of the GH framework are the pressure group model, the status quo model, and the foreign policy model. The pressure group model states that pressure groups are more likely to organize in the context of a changing economic environment that threatens income and employment levels in that particular industry. The level of government protection that ensues is negatively related to industry growth rates and positively related to increases in import penetration ratios, ²⁶ because the former serves to better the industry's viability on the market while the latter, with increasing competition, serves to worsen it. The status quo model says that once an industry is protected, the government will continue to protect that industry out of "conservative" respect" for the status quo.²⁷ Besides deference for tradition, the economic explanation of this model is that governments wish to avoid large adjustment costs. Therefore, present protection depends on past levels of production. There is a positive correlation between changes in tariff levels and the proportion of workers in that industry who have difficulty adjusting to tariff reductions (e.g., old, unskilled and rural workers). Finally, the foreign policy model, developed by Gawande himself, maintains that the bargaining ability and possibilities of countries in trade negotiations are important determinants of trade policy outcomes.²⁸ For example, a country would be more willing to reduce its levels of trade protection against a partner country in which it has substantial direct investment. The foreign country's ability to restrict the flow of earnings back to the investing country in this scenario improves the foreign country's bargaining ability. All of the models of trade protection that I have just named work best to explain the empirical evidence gathered by Gawande and Krishna. Industries with higher protection and lower tariff cuts were

Gawande, Krishna (2001), 2.
 Gawande, Krishna (2001), 3.
 Gawande, Krishna (2001), 4.

those in which workers tended to be unskilled and low paid, there existed a large work force (for organizational and unionization power), the import penetration ratio was high and increasing, and there were initial already high levels of protection.²⁹

Hearkening back to the GH model, though it provides a theory of government-lobby interactions with strong micro foundations, it has two shortcomings. First, its failure to incorporate foreign considerations hurts the model. Gawande's framework of foreign policy is useful here to add depth to GH's basic model. According to the Gawande model, the domestic presence of foreign lobbies could be welfare improving since foreign lobbies would lobby to lower tariffs of the domestic country. Therefore, the government can still promote social welfare, since the competing domestic and foreign lobbies will ultimately benefit the public as a whole. Secondly, Gawande and Krishna suggest that for the GH model to have significance, the weight that the government places on campaign contributions must be relatively high, since the more the government veers towards welfare maximization, the less appealing its entire political enterprise becomes.³⁰ This is assuming that the politicians are more rent seeking than welfare-improving agents and makes the GH model appear like a very cynical approach to the political economy. Goldberg and Maggi, however, find the opposite to be true – that the government places more value on welfare than contributions, giving the GH model a more plausible spin.

Goldberg and Maggi's Empirical Investigation

Goldberg and Maggi's objective is to investigate the validity GH model, and if the model holds true, to estimate the key structural parameters. Using data of protection patter from the United States in 1983, Goldberg and Maggi find the GH model to be surprisingly consistent with the empirical evidence. The breakthrough of their research is the discovery that the weight of

 ²⁹ Gawande, Krishna (2001), 6.
 ³⁰ Gawande, Krishna (2001), 22.

welfare in the government's objective function is many times larger than the weight of contributions.

Goldberg and Maggi, since they begin with a model and try to make the empirical evidence fit, make the same assumptions as GH. Goldberg and Maggi (henceforth GM) clarify that cross-sectional differences in protection under the GH model should be explained by import elasticity, the import-penetration ratio, and whether or not the industry is politically organized.³¹ They also explain the GH model predicts higher protection in industries with lower import penetration, *if they are organized*; if they are not, then protection should increase with import penetration.³²

In their methodology, Goldberg and Maggi use data on nontariff barriers for the United States in 1983. They use NTBs when the model explicitly calls for tariffs because using tariffs would require data on political organization for countries other than the United States, and such data is not generally available.³³ In addition to that, tariffs are not determined cooperatively by in the GATT-WTO, and the GH model states that the government sets tariffs noncooperatively.³⁴ Goldberg and Maggi also add an error term to their estimated econometric model, to test whether variables that potentially affect protection were left out of the theoretical model.³⁵ The third thing they do to discover the validity of GH is to estimate the structural parameters of the model. Goldberg and Maggi construct a full econometric model for that purpose.

Their results are surprisingly consistent with the GH model. The data employing coverage ratios of nontariff barriers show that protection tends to increase with import penetration in nonorganized sectors and decrease with a rise in import penetration in organized sectors, as predicted by the model. Introducing more variables in the estimation (such as employment size, sectoral unemployment rate, measures of unionization, changes in import penetration, buyer and

³¹ Goldberg, Maggi (1999), 1135.

³² Goldberg, Maggi (1999), 1135.

³³ Goldberg, Maggi (1999), 1140.

³⁴ Goldberg, Maggi (1999), 1137.

³⁵ Goldberg, Maggi (1999), 1136.

seller concentration, etc.) did not improve the explanatory power of the strict GH model.³⁶ If this were not the case, then it would imply that the theory provides and incomplete explanation of trade protection. The only surprise came regarding the structural parameters. Goldberg and Maggi estimated the weight of welfare in the government's objective function to be 0.98, as opposed to a weight of around 0.02 for contributions.³⁷ Goldberg and Maggi reject the hypothesis that the government is a pure welfare maximizer and conclude instead that "even though the estimated magnitude of political considerations in the government's objective is small, the GH model has nonnegligible explanatory power for the cross-sectoral pattern of import barriers."³⁸ The purpose of GM's research was to find the "minimal efficient" model, "in the sense of a model that predicts trade protection in the most accurate way with the simplest, theoretically sound specification,"³⁹ and the Grossman and Helpman model practically satisfied these requirements. Having established that the GH model is fairly consistent with empirical studies, I move on to offer a different viewpoint of the political economy of trade.

Willmann and the Role of Majoritarian Voting in Setting Tariffs

Unlike many of the models that followed after the 1994 GH model, Willmann in his 2002 paper "Why Legislators are such Protectionists: The Role of Majoritarian Voting in Setting Tariffs" veers away from further abstraction of the GH model and towards a more classically political economic model. In Willmann's model, the industries are geographically concentrated. The sectors of the specific factors model are associated with electoral districts populated by the continua of heterogenous voters who differ only in their relative factor endowments, and strategic delegation leads each district to elect a representative who is more protectionist than the median voter in

³⁶ Goldberg, Maggi (1999), 1136.

³⁷ Goldberg, Maggi (1999), 1136.

³⁸ Goldberg, Maggi (1999), 1136.

³⁹ Goldberg, Maggi (1999), 1151.

his/her district. The candidate is not a politician seeking only ego rents or more traditional rents, but a so-called citizen-candidate who could be anyone from the district and has the welfare of the district at heart. Willmann's model is a trade-off between efficiency and regional targetability, since the majoritarian component of representative democracies often leads to a strong representation of regional interests.

Willmann uses a specific factors model because it is conducive to a regional interpretation in the context of majoritarian voting. He assumes quasi-linear, additive separable utility just as in the GH model in order to keep the model tractable. He also takes other elements of the GH model: each sector uses a sector specific factor and one common mobile factor; Sector 0 turns the mobile factor into output one-to-one, so that the wage of the mobile factor equals one; and individuals differ only in that individuals in different sectors each owns θ_i units of his/her specific factor and 1 - θ_i units of the mobile factor. Free trade is the optimal policy for the small economy described in Willmann's paper.⁴⁰

In terms of political assumptions, Willmann takes a realistic stance and says that the citizencandidate cannot commit to a particular platform. From a cynical point of view, politicians can
set platforms geared only towards wining the elections, with no intention of following through. It is
also possible that because of the bureaucratic process, some policies are just not easy to implement.
Since we have already established that industries are geographically located, the median
stakeholder, as an ordinary voter in his/her district, would like to see a higher tariff than if he/she
were part of the government and had other considerations to take into account. The tariff directly
benefits the local industry, but, as is the functioning of tariffs, it causes distortions that lower
consumer surplus for everyone in and out of the district. If the median voter were part of the
government, then he/she would be required to internalize the effects of a tariff on his/her fellow

⁴⁰ Willmann (2002), 2-4.

⁴¹ Willmann (2002), 5.

government members. The median voter as a normal voter, though, can ignore the externality and therefore demand higher protection for the local sector, and this demand leads the median voter to forgo the opportunity to represent the district herself. Thus, representatives in government are not the median voters of their districts, but citizen-candidates who are more protectionist than the median voters. If this were to occur in every district, then the government as a whole would be more protectionist than if median voters comprised the government, leading to tariffs that are on average strictly positive. Willmann, then, in his paper, no longer focuses on special interest groups, but seeks to explain tariff formation from inside the government proper. Since this theory is so new at the moment, no empirical evidence exists to prove or disprove it. However, as a side note on the American political process, Democrats are usually in favor of industry protection and implement tariffs; Republics claim to not be protectionist, and they still implement tariffs. No matter what the political ideology, the citizen-candidate does seem to be more protectionist than the median voter.

Conclusion

Grossman and Helpman's 1994 paper on protectionism for sale was so influential that it has dominated political trade models to this day. By linking politics to economics in an attempt to explain why one never sees free trade in practice, Grossman and Helpman spurned a deluge of research that have greatly advanced this field. However, with the exception of the Gawande model that incorporated foreign governments in the determination of trade policy, the GH model has been the most successful of its kind, in the sense that Goldberg and Maggi defined it (see footnote 39). There are a few things to keep in mind, however.

First, none of the models have dealt with the large country case. Yes, free trade is good, but for a large country, the terms of trade benefits of a tariff outweigh its costs, if the tariff is

⁴² Willmann (2002), 12.

sufficiently small. This is known as the optimal tariff, and if we were to study the trade policies of the big players in the world market and were concerned with welfare in general, then we should develop a model that takes the optimal tariff into account. The GH model is helpless to explain protectionism of the United States with regard to its monopsony power in the market for oil, for example. Secondly, as has been pointed out time and again, the GH model does not incorporate foreign influence. It is only concerned with the interaction between lobbies and the governments and the inefficient distribution that arises from that, but the presence of foreign influence could even improve welfare by forcing the domestic lobbies to quiet down some of their claims.

The absence of free trade, though, lies the simple fact that trade policy is not determined by those who seek to maximize economic efficiency. Governments are not comprised of economists, and people do not always make rational decisions. One has only to look at the formation of the European Union to see the emotional entanglement involved in losing rights to economic protection and opening up to free trade. Just in terms of convention, once a tariff has been granted, it is difficult to take away; no matter what effects the tariff has on general welfare. The absence of free trade is also not always attributable to politics, since imperfections in internal functioning of economy may justify interfering in its external economic relations. However, it is always preferable to deal with market failures as directly as possible, because indirect policy responses lead to unintended distortions of incentives elsewhere in the economy. Perhaps newer models should focus on non-tariff barriers and other commercial interactions within countries, but always with the admission that there can be no one coherent theory to predict the political economy of trade, since predictions of political policies are often beyond anyone's scope.

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