

Invariance: An Argument for Historical Specificity

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I. Introduction

Across space and time, various socioeconomic systems have existed and still exist, each with its own features and characteristics that distinguishes it from other socioeconomic systems. For example, the form of capitalism in the modern Western world is a socioeconomic system distinct from, and presumably much more complex than, the socioeconomic system that shaped tribal life. One could also claim that the socioeconomic system in place in the Scandinavian countries nowadays is a different system than, or at least differs in some significant respects from, the socioeconomic system in current-day United States. Acknowledging this fact raises the following question: is it possible to analyse, explain, and predict phenomena in those different socioeconomic systems by using the same theories and models, or is it necessary to develop different theories and models that each apply to different socioeconomic systems? This is the problem of historical specificity. As Hodgson puts it in *How Economics Forgot History* (2001), this problem of historical specificity “addresses the limits of explanatory unification in social science: substantially different socioeconomic phenomena may require theories that are in some respects different” (p. 23). Note the ‘in some respects’, for it is likely that different socioeconomic systems still have a number of phenomena in common. Scarcity of resources, to take an example from Hodgson (2001), seems to be a characteristic that many, if not all, socioeconomic systems share.¹ The fundamental idea behind historical specificity is that despite those possible commonalities, socioeconomic systems may differ sufficiently to warrant theories and models that are tailored to the socioeconomic system at hand (Hodgson, 2001). Such theories tailored to a specific socioeconomic system or systems are labelled historically sensitive theories; phenomena that are relative to socioeconomic systems are labelled historically sensitive phenomena.

This essay intends to contribute to the discussion on whether economic theories and models should be historically sensitive and how such a historically sensitive science of economics may be developed. More precisely, it aims to argue in favour of historically sensitive theories by appealing to the notion of invariance introduced by Woodward (2005). Invariance applies to causal generalizations, and can intuitively be understood as a measure of the extent to which a causal generalization continues to hold under changes in the (putative) cause. For the problem of historical specificity, the most important feature of the notion of invariance is that it is relative to systems. That is, a generalization may be invariant (may hold) in one system, but not in another system. Woodward (2005) argues that theories of causal explanation should require generalizations to be invariant, instead of requiring generalizations to meet the criteria of lawhood. Lawhood refers to the idea that generalizations qualify as law only if they meet certain criteria such as exceptionlessness and universal validity. Based on this, the main claim made in this essay is that adopting the notion of invariance instead of the notion of lawhood provides one with a conceptual-causal framework that naturally incorporates historical specificity, or at least a framework that can deal properly with historical specificity. If Woodward (2005) correctly claims that invariance should replace the notion of lawhood, it follows that historical specificity—or at least relativity to a system or systems—is a natural feature of any causal generalization. In addition to the main claim, this essay shows that even though the problem of historical specificity is nowadays largely forgotten about and even considered obsolete (or so Hodgson (2001) argues), the idea of historically sensitive theories is consistent with some methodological statements of two prominent economists—Milton Friedman and Fritz Machlup. The point of showing this is not to give an additional argument

in favour of incorporating historical specificity in economics, but to suggest a strategic way to convince economists of the relevance of this notion.

This essay is structured as follows. In section 2, I provide some historical context surrounding the notion of historical specificity. Subsequently, I describe the notion of invariance in section 3. Section 4 studies the relation between historical specificity and invariance and argues that the notion of invariance naturally incorporates the notion of historical specificity. It also shows that the ideas of historical specificity and invariance are reconcilable with the methodological positions (or at least with some methodological statements) of Milton Friedman and Fritz Machlup. The last section concludes.

2. Historical specificity: origins and development²

Why is the problem of historical specificity important? If socioeconomic phenomena are historically sensitive, the importance is evident. For, supposing that socioeconomic phenomena are indeed historically sensitive, how could economists explain historically sensitive socioeconomic phenomena in different socioeconomic systems using the same theories and models? To the extent that those phenomena are relative to the system(s) in which they occur, this would indeed be impossible. Granted, an economist who is not aware of the supposed historical sensitivity of socioeconomic phenomena may develop a theory that works well in the context of modern-day capitalism, and he or she may never think about verifying the predictions of the theory or using the theory in the context of different socioeconomic systems. In such cases, not taking into account historical specificity seems to be not much of a problem—until a change in the socioeconomic system occurs, which in turn would result in an economist perplexed with the apparent lack of applicability of the hitherto well-working theory. Hence, though in the shorter run an economist may develop fruitful theories without being concerned about historical specificity, in the long run it will turn out—still supposing that socioeconomic phenomena are indeed historically sensitive—that the theory only applies to a specific socioeconomic system or some socioeconomic systems, and the necessity of historically sensitive theories will unfold.

The importance of the problem of historical specificity was widely recognized throughout the history of the discipline of economics. Specifically, Karl Marx and his followers, the German historical school, and the institutionalists attached significant importance to this problem and devoted considerable attention to it. However, inter alia due to the rise of Nazism and the subsequent World War II, which diminished the influence of the German historical school, interest in the problem of historical specificity withered despite it not being resolved yet. Economic principles became widely considered as universal principles, not attached to particular times or places. The purpose of this section is to present some historical context surrounding the notion of historical specificity—its origins, development, and the reasons for the contemporary lack of interest in this problem.

It should first be noted that around the beginning of the 1800s, the prevailing conception of history changed from the idea that there is some kind of 'natural order' around which history oscillates to the idea that history is a developmental process (Hodgson, 2001, 43-55). Hodgson (2001) listed some starting shots that were already given in the century before, such as the publication of books by Giambattista Vico (1725), Charles Baron de Montesquieu (1748), Adam Smith (1776), and William Robertson (1777), amongst others. Hegel's ideas about history as a developmental process, together with several revolutions in Europe overthrowing existing orders and aiming at progress, further supported ideas about the necessity to devote attention to particular historical circumstances.

This is where Marx enters the stage (Hodgson, 2001, 43-55). Influenced by Hegel's ideas about the dialectical course of history, Marx criticized 'bourgeois economists'—in particular Pierre-Joseph Proudhon—in a letter to Pavel Annenkov (28 December 1846) for regarding "economic categories as eternal laws and not as historical laws which are laws only for a given historical development" (quoted in Hodgson, 2001, p. 45). Accordingly, Marx' *Das Kapital* (1867) is about the capitalist mode of production, that is, a historically situated socioeconomic system characterised by particular relations between workers and owners of the means of production and particular laws determining the evolution of that socioeconomic system. In his *Zur Kritik der Politischen Ökonomie* (1859), Marx also presents a theory of socioeconomic change and outlines an approach for distinguishing dif-

ferent socioeconomic systems, both based on conflicts between ‘material productive forces’ and ‘relations of production’.

Sometime before Marx, the older German historical school already argued that economic theories should be historically sensitive (Hodgson, 2001, 56-64). One important figure is Wilhelm Roscher, who published his *Grundriss* in 1843, a widely read book in which he spells out the so-called ‘historical method’ of research. Another important publication is Friedrich List’s *Das Nationale System der Politischen Ökonomie*, where he shows how national economic development depends on particular historical features of a national economy. For example, List argues that though the economic principles developed by the classical economists may apply to developed nations such as the British, they did not apply to less developed nations such as Germany.

The ideas of the historical school did not remain confined to Germany. Most notably, in the British Isles historicist ideas were taken over by Richard Jones, John K. Ingram, and Cliffe Leslie, amongst others (Hodgson, 2001, 65-74). An event that played an important role in promoting historicist ideas was the Irish potato famine. The adopted *laissez-faire* approach to solving this famine turned out to exacerbate the effects of the famine (or so the historicists argued), thereby demonstrating that supposedly universal economic principles were in fact not universal after all. A success for the British historical school that should be noted is the acknowledgement of the problem of historical specificity by both John Stuart Mill and Walter Bagehot.

The younger historical school in Germany agreed with its predecessor—the older historical school—that theories and models in economics should be historically sensitive (Hodgson, 2001, 113-134). A notable figure of the younger historical school is Max Weber, who proposed a conceptual framework of ‘ideal types’. Ideal types are agents in models that serve a theoretical and heuristic function, as means to understand more complex phenomena. Within this framework, Weber leaves room for analysis of general aspects of economic phenomena as a preliminary task. Such general analysis subsequently needs to be supplemented by more historical types of analysis in order to answer the questions that economists are interested in.

Unsurprisingly, not every figure or school in the history of economic thought agreed that economic theory should be historically sensitive. In 1883, Carl Menger published his *Untersuchungen* that turned out to be the kick-off of the *Methodenstreit* (Hodgson, 2001, 79-94).³ In this book, Menger attacked the methodology of the historical school on four themes, amongst which the problem of historical specificity. Menger concluded that the science of economics should be based on universal principles, not on historically sensitive principles that may differ per socioeconomic system. This conclusion was based on the argument that individual action shapes all economic activity, supplemented with the argument that the individual self-interest motive (on which, Menger argued, economic analysis should focus) forms part of “the most original and the most general forces and impulses of human nature” (Menger, 1985, p. 86). Two other figures in the history of economic thought that merit mention here are John Maynard Keynes and Lionel Robbins (Hodgson, 2001). Both contributed to the neglect of the problem of historical specificity in the post-war period by engaging in general theorising without regard for historical circumstances. Lionel Robbins, for instance, defined economics as the science of individual choice under scarcity. Given that individual choice and scarcity are phenomena that all socioeconomic systems have in common, Robbins’ definition made way for analysing socioeconomic phenomena in different socioeconomic systems by analysing the universal problem of individual choice under scarcity. John Maynard Keynes disregarded historical sensitivity by assuming that economic analysis is ultimately based on universal psychological laws.

Despite the importance attached to the problem of historical specificity in the history of economic thought, and despite the developments towards properly dealing with this problem, attention for and interest in historical specificity nowadays is close to non-existent. Conventional wisdom has it that the historical school simply lost the *Methodenstreit*. However, Hodgson (2001, 21-40) argues that this is not the case: though the historical school may have lost the debate on induction versus deduction, the debate on historical specificity was certainly not won by the opponents of historically sensitive theorising. More plausible reasons for the lack of attention for the problem of historical specificity that Hodgson (2001) lists are the inadequate methodological frameworks of the historical school, the mis-

conception that arguing in favour of historical specificity is tantamount to arguing against theory, the methodological transformation of economics and sociology in the 1930s, and the rise of Nazism and the subsequent World War II. With regard to the inadequate methodological framework, for the older historical school the main point of inadequacy concerned their naïve empiricism. However, the baby was thrown out with the bathwater: not only naïve empiricism was rejected, but many methodological tenets of the historical school, including the problem of historical specificity, were rejected as well. The younger historical school avoided naïve empiricist positions, but lacked time to develop an adequate alternative due to the rise of Nazism and the Second World War. The unfortunate misconception that being in favour of incorporating historical specificity in economic theory implies that one must be against theory seems to stem from the naïve empiricist tendencies of the older historical school. That this need not be the case becomes clear from the positions taken by the younger historical school. Lastly, the methodological transformation in economics initiated by Lionel Robbins (1932) was partially an attempt to bury the problem of historical specificity. Combined with the defeat of institutionalism in the United States in the 1940s and the breakdown of German academia in the Second World War, this made room for (certain kinds of) theories that ignored the problem of historical specificity.

3. Invariance⁴

In this section I concisely introduce Woodward's overall project, describe the notions of interventions and invariance, and present Woodward's arguments for his claim that the notion of invariance should replace the notion of lawhood in theories of causal explanation.

3.1 Woodward's Manipulability Theory of Causation

Woodward introduces the notion of invariance in his book *Making Things Happen* (2005) as a part of his overall project in which he develops a manipulability theory of causality and a corresponding theory of causal explanation. Before describing the notion of invariance in this essay, it is necessary to spend some words on Woodward's overall project. Woodward bases his theory on patterns of counterfactual dependence, specifically

“pattern[s] of counterfactual dependence of the special sort associated with relationships that are potentially exploitable for purposes of manipulation and control” (Woodward, 2005, p. 13). An example is perhaps the most convenient way to sketch Woodward's theory.

One example that Woodward uses throughout his *Making Things Happen* concerns the relation between atmospheric pressure, a barometer reading, and the occurrence of a storm. Consider the generalisation ‘If the barometer reading were to fall, a storm would occur’ (G-1 for short). This generalisation highlights a pattern of counterfactual dependence between barometer readings and the occurrence of storms. However, given that we cannot manipulate or control the occurrence of storms by manipulating or controlling the barometer readings, this counterfactual relation between barometer readings and the occurrence of storms does not count as a causal relationship, and one cannot refer to (G-1) to causally explain the occurrence of storms. In contrast, take the generalization ‘If the atmospheric pressure were to decrease, a storm would occur’ (G-2). This generalization also highlights a pattern of counterfactual dependence; moreover, given that it is conceptually possible to manipulate or control the occurrence of storms by manipulating or controlling the degree of atmospheric pressure, this generalization counts as causal and can be used to causally explain the occurrence of storms.

Woodward's approach to causation is not entirely new. Manipulationist theories of causation have been developed by philosophers such as Gasking (1955), Collingwood (1940), von Wright (1971) and Menzies and Price (1993), though Woodward's theory differs from those in various respects. Non-philosophers have also endorsed a manipulationist approach of causation, most notably Cook and Campbell (1979) and Pearl (2000). Woodward emphasizes his indebtedness to Pearl (2000) for the formal framework that he uses to develop his manipulationist theory of causation. Despite Woodward's approach not being entirely original, his *Making Things Happen* became a very influential treatment of causation.

3.2 Interventions and Invariance

Woodward employs two notions that are important in enabling one to distinguish between causal and non-causal generalizations: *interventions*

and *invariance*. The notion of an intervention (Woodward, 2005, 95-151) describes how a putative cause should be manipulated in order to be able to verify whether or not changes in the putative effect occur. Intuitively, one can think of an intervention as an idealized experimental manipulation. Woodward describes the idea behind the notion of an intervention as follows: “An intervention on some variable X with respect to some second variable Y [where X and Y represent a putative cause and effect, respectively] is a causal process that changes the value of X in an appropriately exogenous way, so that if a change in the value of Y occurs, it only occurs in virtue of the change in the value of X and not through some other causal route” (Woodward, 2005, p. 94).⁵ Note that the notion of an intervention is thus relative to the generalization under consideration; specifically, it is relative to the putative cause X and putative effect Y. It is possible that some causal process counts as an intervention on X with respect to Y, but not as an intervention on X with respect to Z.

Using this notion of an intervention, Woodward introduces the notion of invariance: “A generalization G ... is invariant if G would continue to hold under some intervention that changes the value of X in such a way that, according to G, the value of Y would change— “continue to hold” in the sense that G correctly describes how the value of Y would change under this intervention” (2005, p. 15). Invariance, Woodward (2005, 239-245) claims, is a key feature that causal generalizations and causal explanations possess. For example, when applied to (G-1) we see that this generalization is not invariant: if we intervene on the barometer reading so that the reading would fall, a storm would nevertheless not occur as a result of this intervention. (G-1) thus fails to hold under interventions, and is therefore not invariant. Because it is not invariant, it does not count as a causal generalization or explanation. In contrast, the generalization (G-2) is invariant: if we would intervene on the atmospheric pressure so that atmospheric pressure would decrease, a storm would occur. Because (G-2) is invariant under interventions, it counts as a causal generalization or explanation.

Some more words on invariance. The most important feature of the notion of invariance for the problem of historical specificity is that invariance is relative to a system (Woodward, 2005, 245-254). Returning to the

example of the ideal gas law, whereas this law has a considerable range of invariance under interventions when applied to a system of gases, the generalization is non-invariant under interventions when applied to a system of liquids. Hence, a generalization can be invariant in one system, but non-invariant in another system. Note that a system of gas may consist of the same elements as a system of liquids. For instance, both a gas and a liquid may consist of H_2O . It is thus not necessarily the case that different systems behave differently because they consist of different elements; the same elements may behave differently in different systems.

Woodward’s focus is on invariance under interventions with regard to change-relating generalizations (2005, 245-254). The notion of invariance can legitimately be applied to non-change-relating generalizations (e.g. generalizations of the form ‘All mammals have elastin in their arteries’⁶) or to invariance under changes in background conditions or changes in the values of variables that do not count as interventions. However, those forms of invariance are irrelevant for distinguishing between causal and non-causal generalizations, hence the focus on change-relating generalizations⁷. The question then arises when a generalization is a valid change-relating generalization. This is in fact a question of causal relata: what factors can be taken to be putative causes or effects? For Woodward, the relevant criterion here is whether there is a well-defined notion of changing the value of a given variable; in other words, we must be able to say what it is like to change or manipulate a variable. To take another example from Woodward, in an experiment testing the efficacy of some new drug, there is a well-defined notion of changing the value of the variable ‘Subject received treatment’ from 0 to 1 (i.e. from ‘False’ to ‘True’) by administering the drug. In contrast, suppose we have a variable that can take on the values ‘Lizard’, ‘Kitten’, and ‘Raven’. In this case, we do not have a well-defined notion of what it is like to change a lizard into a kitten, or a raven into a lizard, for example. Hence, such variables cannot figure in causal generalizations because such generalizations would not be change-relating generalizations.

Another important feature of Woodward’s concept of invariance is that it comes in degrees (2005, 257-265). Unlike traditional criteria for lawhood figuring in other accounts of explanation such as the

Deductive-Nomological model, a generalization is not either invariant or non-invariant. Instead, a generalization can be more or less invariant depending on two factors: first, the range of interventions under which the generalization is invariant, and second, the importance of the interventions under which it is invariant. Which interventions count as important depend on the subject matter or the domain. The interventions deemed important in microeconomics, for example, are likely to differ from the interventions deemed important in physics. A postulated microeconomic relationship, for instance, may lack invariance under surgical interventions on the brain structure of some individual, but the lack of invariance under such circumstances is rightly of not much concern to economists. In contrast, invariance under changes in the information available to an individual is important, given that information plays a key role in microeconomic theory. With regard to the range of interventions, Woodward uses the example of the ideal gas law and van der Waals force law. The first law postulates certain generalisations about the behaviour of some ideal hypothetical gas that approximates the behaviour of real gasses relatively accurately. The law breaks down, however, in circumstances in which intermolecular forces are important (e.g. at sufficiently high temperatures). Van der Waals force law, on the other hand, also continues to hold under interventions associated with circumstances in which intermolecular forces are important. Hence, van der Waals force law has a greater range of invariance than the ideal gas law. Returning for a moment to the system-relativity of invariance discussed above, that invariance comes in degrees implies that generalizations may have different degrees of invariance in different systems. The system-relative feature of invariance is thus no dichotomous feature.

3.3 Invariance as a Better Alternative for Lawhood

In his discussion of the notion of invariance, Woodward (2005, 239-314) often contrasts this notion with the notion of lawhood. Woodward argues that the standard way of thinking about universal laws is inadequate to base a theory of explanation on, for the reason that many generalizations do not fit neatly into the dichotomous classification of generalizations as either universal laws or purely accidental generalizations. According to Woodward (2005), in order to classify as a law, a generalization has to

meet at least many of the traditional criteria for lawhood including exceptionlessness, absence of references to particular objects or spatiotemporal locations, projectability or confirmability by the instances of a generalization, support for counterfactuals, a wide scope, potentially integrable into a body of systematic theory, and the criterion that the generalization should play a unifying or systematizing role in research. A paradigmatic example of a law would be the field equations of General Relativity. A generalization such as 'Smoking causes cancer' would not qualify as a law. A problem that Woodward identifies here is that many generalizations that we do not regard as purely accidental nevertheless fail to qualify as a law. This does not only apply to generalizations in the social sciences such as economics or sociology, but also to generalizations in physics and chemistry (think for example of the ideal gas law discussed above and the generalization about smoking causing cancer). This seems to be an important limitation of theories of explanation based on lawhood: many generalizations accepted by scientists as valid would classify as purely accidental generalizations and would hence, according to such theories, not be suitable to figure in explanations. The response to this limitation in the form of relaxing the criteria for lawhood runs into another problem, namely that the distinction between paradigmatic laws of nature such as the field equations of General Relativity and generalizations that are emphatically not paradigmatic laws of nature such as the ideal gas law disappears.

The fundamental problem, then, seems to be the dichotomous classification of generalizations as either universal laws or purely accidental generalizations. The notion of invariance, Woodward contends, is much better suited as a basis for causal explanation, partially because it allows for classification in degrees instead of dichotomous classification. Moreover, Woodward argues that ideas similar to his notion of invariance are already considered important and useful notions in science.⁸ Based on this, Woodward makes a plausible case that the notion of invariance should be preferred to the notion of lawhood in science: first, given that a dichotomous classification of generalizations is unsatisfactory, a strong conceptual argument in favour of notions that allow for degrees in the classification of generalizations arises, and second, the notion of invariance under interventions is better suited for actual scientific practice than the dichotomous notion of lawhood.

4. Invariance and Historical Specificity⁹

This section will connect the notion of historical specificity with the notion of invariance. Following up on the discussion in the previous section, in this section I argue that while the notion of lawhood does not leave room for historical specificity, the notion of invariance naturally incorporates this idea. If the notion of invariance should indeed replace the notion of lawhood in theories of causation and causal explanation, it follows that historical specificity—or at least relativity to a system or systems—is a natural feature of causal generalizations and explanations. Furthermore, I show that the idea of historical specificity is reconcilable with (at least some) methodological statements of both Milton Friedman and Fritz Machlup.

4.1 Lawhood, Invariance, and Historical Specificity

If one adopts the traditional requirements for lawhood and requires laws to figure in explanations, or sees the discovery of universal laws as the aim of science, it readily follows that there is not much room, indeed no room at all, for the problem of historical specificity. Not only would a historically specific generalization clearly violate the requirement of exceptionlessness, it would also refer to particular systems or spatiotemporal locations, it would not necessarily have a wide scope (for it may be valid for only one specific type of socioeconomic system), and it would have clear limits on its unifying or systematizing potential (for this potential is limited to theorizing about the system(s) the generalization applies to). It is plausible, then, that to the extent that economists and philosophers of economics accepted the idea that discovering universal laws is the aim of economics, or the idea that successful explanations must refer to universal laws, this idea has withheld them from accepting the idea of historical specificity.

In contrast to the notion of universal laws, the notion of invariance naturally incorporates the problem of historical specificity. In Woodward's words, his proposal "should also allow us to understand how a generalization can play an explanatory role even though it holds only within a certain domain or over a limited spatiotemporal interval and has exceptions outside of these" (Woodward, 2005, p. 240). It is convenient to illustrate this

using an example. Suppose that the generalization "The state of the infrastructure influences the rate of economic growth' (G-3) holds for capitalist societies, but not for communist societies. In that case, this generalization is invariant under interventions on the state of the infrastructure with respect to the rate of economic growth in a *capitalist society*; however, the same generalization is not (or hardly) invariant (...) in a *communist society*. Hence, generalization (G-3) can play an explanatory role in the context of a capitalist society, even though it has exceptions outside of the capitalist context (for instance in a communist society). The fact that (G-3) can have different degrees of invariance depending on the system it is applied to reflects the system-relative aspect of the notion of invariance under interventions. It is this aspect of the notion of invariance that plays a key role in enabling it to deal properly with historically specific generalizations. The notion of invariance thus provides a sound underlying conceptual-causal framework that may help clarify discussions about the problem of historical specificity. It may also help to show, by the fact that historical specificity fits naturally in this framework, that using historically specific generalizations in explanations is not less scientific—indeed, may be more scientific—than restricting oneself to only using ahistorical generalizations.

4.2 Reconciling Historical Specificity with the Methodologies of Friedman and Machlup

Even though the problem of historical specificity is nowadays largely forgotten about and even considered obsolete (or so Hodgson (2001) argues), the idea of historically sensitive theories is consistent with some methodological statements of two prominent economists—Milton Friedman and Fritz Machlup. This may be quite surprising, because Hodgson (2001, 232-247) argues that Friedman's statement of the quantity theory of money (1956) promised fundamental and transhistorical regularities in economics. In the same chapter, it is argued that both Machlup (1946, 1978) and Friedman (1953) contributed to making the theory of consumers' demand ahistorical by removing the assumption of conscious or deliberate choices.

Despite the fact that those economists in their actual scientific practice thus seem to have contributed mostly to the case against incorporating historical specificity in economics, reconciling their methodological state-

ments with the notion of invariance and the idea of historical specificity is relatively straightforward. For example, in his well-known 1953 essay on the methodology of positive economics, Friedman writes that “The important problem in connection with the hypothesis is to specify the circumstances under which the formula works or, more precisely, the general magnitude of the error in its predictions under various circumstances” (p. 18), and claims that this specification should be part and parcel of any hypothesis. One should be wary, though, of reading too much in this statement. It seems that Friedman did not intend this statement as specifically, or even *inter alia*, supporting historical specificity in economics, for some pages later he writes that besides a conceptual world or abstract model, a hypothesis also consists of “a set of rules defining the class of phenomena for which the ‘model’ can be taken to be an adequate representation of the ‘real world’” (p. 24). Hence, Friedman focusses more on classes of phenomena than on different types of socioeconomic systems. Nevertheless, the idea that a hypothesis may only work under certain circumstances or may have different general error magnitudes in its predictions under different circumstances in the ‘worst’ interpretative case does not contradict the idea of historical specificity. Indeed, even in this ‘worst’ interpretative case there is still room for connecting Friedman’s methodological statements with the notions of invariance and historical specificity.

Machlup expresses a similar view when he writes “A theory may be regarded as a model plus a specification of the empirical observations to which it applies” (1960, p. 572). In a later paper, Machlup puts it more elaborately: “To put this statement in a slightly different form, any model designed to present (exhibit) a causal connection between an independent variable and a dependent variable under given conditions—conditions which may include fundamental hypotheses and a set of less fundamental assumptions on various levels of generality or specificity—must display the dependent variable as a logical consequence of all the premisses in the model. Since these premisses imply the conclusion, there can be no doubt about the complete determinateness of the result. Of course, whether this whole apparatus with its input and its determinate output applies to many situations of the real world, or to only a few, or to none at all, is a different matter” (1974, p. 280). Thus, Machlup recognizes both that there are several levels of generality or specificity and that theories may

or may not apply to different situations in the real world. Again, though, one should be careful in interpreting this statement, as it seems unlikely that Machlup’s intention was to support a notion of historical specificity. Nevertheless, Machlup’s position expressed here is clearly reconcilable with the idea of historical specificity.

The fact that the methodological positions of two prominent economists can be reconciled with the idea of historical specificity is of course not an argument in favour of incorporating historical specificity in economics. However, it may render the idea of historical specificity less controversial than currently seems to be the case for economists. Moreover, given that Friedman’s 1953 essay remains influential in economics to this day, it could perhaps be used to demonstrate that the idea of historical specificity is not so far removed from a widely accepted—that is, widely accepted among economists—methodological statement in economics. Whether it is a desirable and fruitful strategy to use Friedman’s controversial and contested methodological essay to convince economists of the relevance of the problem of historical specificity is another matter, important in its own right but outside the scope of this essay.

5. Conclusion

The goal of this essay was twofold. First, the foremost goal was to argue in favour of developing historically sensitive theories in economics by appealing to Woodward’s (2005) notion of invariance. Based on Woodward’s argument that the dichotomous classification of generalizations as either ‘purely accidental’ or ‘universal law’ is unsatisfactory, further supported by actual scientific practice that seems to usually employ some notion of invariance, I followed Woodward in claiming that the notion of invariance should replace the notion of lawhood. Subsequently, I showed that adopting the notion of invariance provides one with a conceptual-causal framework that naturally incorporates (or at least can deal properly with) historically sensitive generalizations. Putting this together, it follows that historical specificity—or at least relativity to a system or systems—is a natural feature of any causal generalization. If causal generalizations are historically sensitive, the implication is that (economic) theories should be historically sensitive as well.

The second goal of this essay was to show that, even though the problem of historical specificity is nowadays largely forgotten, reconciling the idea of historically sensitive theories with some methodological statements of Milton Friedman and Fritz Machlup is relatively straightforward. The reason for this is that both Friedman and Machlup claim that a hypothesis does not necessarily always apply; a specification of when a hypothesis applies should be part of the hypothesis itself. Though this is clearly not an argument in favour of historically sensitive theories, the possibility of this reconciliation may be used as a strategy to convince economists that the problem of historical specificity is or should not be that controversial.

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Notes

1. Scarcity of resources here should be understood in the economists' sense. That is, it refers to the idea that our resources are limited, whereas our aspirations (for which we need those resources) are unlimited.
2. This section draws on Hodgson (2001), chapters 3-7 and 9. I can only provide a rough discussion here, for a detailed treatment the reader is referred to those chapters.
3. The methodenstreit refers to a methodological dispute between the Austrian school and the German Historical school concerning inter alia historical specificity and the problem of induction versus deduction.
4. This section draws on Woodward (2005) chapters 1, 2, 3, and 6.
5. A formal definition of the notion of an intervention can be found in Woodward, 2005, p. 98.

6. Taken from Woodward (2005), section 6.2.

7. For a discussion on those other notions of invariance besides invariance under interventions, see Woodward (2005), section 6.2.

8. For example, the notions of resiliency (Skyrms, 1980), robustness (Redhead, 1987), and stability (Mitchell, 1997, 2000) all relate to the stability of generalizations or relationships under various changes. Somewhat longer ago, in 1944, Haavelmo introduced his notion of autonomous relationships which also incorporates degrees in the classification of a relationship as autonomous or not (where the notion of autonomy is some kind of invariance condition).

9. Regarding Woodward's position, this section draws again on Woodward (2005), chapter 6.

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