

Alacevich, Michele

Working Paper

Paul Rosenstein-Rodan and the birth of development economics

CHOPE Working Paper, No. 2020-04

Provided in Cooperation with:

Center for the History of Political Economy at Duke University

Suggested Citation: Alacevich, Michele (2020) : Paul Rosenstein-Rodan and the birth of development economics, CHOPE Working Paper, No. 2020-04, Duke University, Center for the History of Political Economy (CHOPE), Durham, NC

This Version is available at:

<https://hdl.handle.net/10419/215545>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Paul Rosenstein-Rodan and the Birth of Development Economics

Michele Alacevich*

University of Bologna

Abstract

This paper, based on previously untapped archival sources, offers an assessment of the life and thought of Paul Rosenstein-Rodan, a pioneer of development economics and one of the first articulators of both the “Big Push” and “balanced growth” theories. In addition to documenting the early life of Rosenstein-Rodan, this paper discusses two critical junctures in the history of development economics, namely, the birth of the discipline in the late 1940s, and its decline approximately a quarter century later. Rosenstein-Rodan was a fundamental player in both instances. Through the lens of his experiences it is possible to understand the eclectic beginnings of development economics and locate some of its most important roots in the intellectual milieu of inter-war Europe, from Vienna to London via

* I am grateful to Pier Francesco Asso, Ann and Roger Backhouse, Mauro Boianovsky, Richard Eckaus, Giovanni Farese, Philippe Fontaine, Carlo Ginzburg, Kevin D. Hoover, Stephen Marglin, Leonard Minkes, Carlo Zappia, one colleague and friend of Rosenstein-Rodan’s at MIT who wishes to remain anonymous, and two anonymous reviewers for comments on an earlier version of this paper. I am indebted to the archivists of the Howard Gotlieb Archival Research Center, Boston University, and in particular Jane Pratt; Archivio Fondazione Luigi Einaudi, Turin; Chatham House, London; World Bank Group Archives, Washington, DC; Archivio Storico Banca d’Italia, Rome; and MIT Libraries, Cambridge, Mass., for invaluable assistance during archival research. I am also grateful to the Global Development Policy Center at Boston University’s Frederick S. Pardee School of Global Studies, and to its Director Kevin Gallagher, for the warm hospitality and stimulating intellectual exchange. For contacts, michele.alacevich@unibo.it

Eastern and Southern Europe. What's more, Rosenstein-Rodan's subsequent career epitomizes the arc of development economics, casting new light on the debates and practices that shaped the discipline during its rise, and on the unresolved issues that help explain its decline.

In the relatively small Empyrean of the “pioneers” of postwar development economics, Paul N. Rosenstein-Rodan (1902-1985) occupies a prominent position: not only he is credited with having being the first to have fully articulated the “Big Push” and “balanced growth” theories, which soon became *the* development orthodoxy of the postwar years, but his 1943 article “Problems of Industrialisation of Eastern and South-Eastern Europe” is often mentioned as a sort of birth certificate of the discipline of development economics. Jagdish Bhagwati, one of Rosenstein-Rodan’s former collaborators and a great admirer of his work, considered it “the most beautiful piece of creative writing on development” (Bhagwati 2000: 38). Moreover, Rosenstein-Rodan’s contribution is not limited to the age of “high development theory”, as Paul Krugman once labelled the pioneering years of the discipline (Krugman 1993). Rosenstein-Rodan had already taken his first steps as a highly theoretical exponent of utility theory in Vienna in the 1920s. He was a pioneer of post-war development economics, a prominent scholar and government consultant, and an eastern European émigré with strong cultural and sentimental ties to Poland, Austria, Italy, Great Britain, and the United States.

And yet, no analysis of his long scholarly career exists. This is in part because Rosenstein-Rodan’s work, after a number of very theoretical publications in the early phase of his scholarly career, increasingly focused on so-called grey material, unpublished reports, and on coordinating research groups. He was thus a very influential scholar though he often worked behind closed doors. Furthermore, no specific archival holdings appeared to have survived Rosenstein-Rodan. His wife, Margaret, died a few months after him, and Rosenstein-Rodan’s former colleagues at the Massachusetts Institute of Technology (MIT) and Boston University,

Rosenstein-Rodan’s last academic home—including his close friend, the President of Boston University, John Silber—were convinced his papers had been lost.¹

As it turns out, Rosenstein-Rodan’s papers are neatly preserved in the Howard Gotlieb Archival Research Center of Boston University, and the many organizations with which he collaborated during his life also hold papers written by him or related to him. This article, based on these and other archival sources, offers a first reconstruction of the life and thought of Rosenstein-Rodan and provides a first assessment of his career, in particular as a development economist.² In addition to documenting briefly the many lives of Rosenstein-Rodan, this article discusses two crucial junctures in the history of development economics as a discipline, namely, the birth of the discipline in the late 1940s, and its decline approximately a quarter century later.

Early Career: Vienna’s Legacy and the European Crisis

Very little is known about the early life of Paul N. Rosenstein-Rodan, and even about the name there is a certain confusion (Paul Narziss Rosenstein, according to his Austrian 1933 passport; “known as Rosenstein-Rodan”, according to his 1939 certificate of Naturalization as a British citizen)³. Born to a bourgeois Jewish family in Cracow on April 19, 1902, Paul studied economics at the Law School of the University of Vienna. Although the city’s status had declined from imperial capital to the government seat of a small republic, Vienna’s intellectual life remained very stimulating, and it was considered, alongside Stockholm and Cambridge, UK, one of the three best places to study economics, perhaps more because of its private discussion circles—Ludwig von Mises’s *Privatseminar* being by far the most important—than for the quality of the economics teaching at the university (Craver 1986a). These circles were a specific form of Viennese intellectual

¹ Personal emails to me.

² Archival sources are from the Howard Gotlieb Archival Research Center, Boston University, henceforth HGARC; Archivio Fondazione Luigi Einaudi, Turin, henceforth AFLE; Chatham House, London, henceforth CHA; World Bank Group Archives, Washington, DC, henceforth WBGA; Archivio Storico Banca d’Italia, Rome, henceforth ASBI; MIT Libraries, Cambridge, Mass., henceforth MITL.

³ Both in HGARC.

life and were important also in mathematics, philosophy and other fields. Often they had overlapping membership, so there was real interdisciplinarity among the intellectuals. Rosenstein-Rodan belonged to the relatively younger cohort of this milieu: his first publication, a long encyclopedia entry on marginal utility, appeared in 1927 (Rosenstein-Rodan 1927) and shortly after he became, with Oskar Morgenstern, the managing editor of the newly established journal *Zeitschrift für Nationalökonomie*, the journal of the Austrian National Economic Association. Following in the footsteps of his mentor Hans Mayer, Rosenstein-Rodan worked on the concept of time in economic analysis—an issue that would remain central to his work throughout the 1930s (Rosenstein-Rodan 1929).

Poor professional prospects and a quickly deteriorating political climate made the Viennese environment increasingly unappealing for the son of a Jewish family. Although full-fledged anti-Semitic legislation would be issued only after the 1938 *Anschluss*, anti-Semitic sentiments were already rampant in the late 1920s. As Karl Popper remembered, “It became impossible for anybody of Jewish origin to become a University teacher”.⁴ This was also true for Rosenstein-Rodan: “As things are now developing”, Morgenstern confided to a colleague, “Rosenstein will have little future in Austria”.⁵ By 1930, Rosenstein-Rodan was on the move and, thanks to a Rockefeller Foundation fellowship, he went to Italy.⁶ Luigi Einaudi—a prominent liberal economist and the Rockefeller correspondent in Italy—became a dedicated mentor for the young scholar. Introduced by Einaudi, Rosenstein-Rodan met economists in every city he visited, and in Naples he became acquainted with the philosopher Benedetto Croce.⁷ These connections, especially to Einaudi, would be very important fifteen years later, when Rosenstein-Rodan, by then an economist at the World Bank, negotiated the first of eight Bank loans to Italy: in 1945, Einaudi would be appointed Governor of the Italian Central Bank, and in 1948 he was elected President of the Italian Republic.

⁴ In Craver 1986a: 23.

⁵ Oskar Morgenstern to John Van Sickle, November 28, 1931, in Craver 1986a: 22, n. 80.

⁶ On the Rockefeller Foundation’s fellowships program in Europe, see Craver 1986b.

⁷ Rosenstein-Rodan to Einaudi, 2/II.1931; Rosenstein-Rodan to Einaudi, 26/II.1931, AFLE.

Thanks to Einaudi's intermediation, Rosenstein-Rodan obtained a fellowship extension to be spent in London. This was an important opportunity to broaden his network and keep up to date with the most recent economics scholarship. In London, he frequented Friedrich Hayek and met, among others, Lionel Robbins, Nicholas Kaldor, John Hicks, and Piero Sraffa. In those years, Rosenstein-Rodan envisaged for himself a role as liaison between the Italian and the London scenes: in London, he was committed to circulating Italian economics literature. At the same time, he signaled articles by English-based scholars for Einaudi's journal *La riforma sociale*.

From Vienna to London via Italy, Rosenstein-Rodan focused on two main research subjects. One was the history of economic thought, which stemmed from his broad readings in economic analysis, increasingly relevant in his teaching. He even prepared a book manuscript based on his lectures, but it never saw the light of day.⁸ Rosenstein-Rodan's second research project was on the concept of time in pure theory—a continuation of his research in Vienna. Prompted by an exchange between Simon Kuznets and Ralph W. Souter on the *Quarterly Journal of Economics* about the relation of business-cycle theory with economic theory, Rosenstein-Rodan composed a short manuscript on the concept of time in relation to economic equilibrium, which formed the basis for two articles that Rosenstein-Rodan later published in *La riforma sociale* and *Economica* (Rosenstein-Rodan 1933; 1934).⁹

These London articles are important intermediate steps between Rosenstein-Rodan's early scholarly interests and his future work on development issues. Rooted in the Viennese tradition, both articles discuss personal utility and the configuration of economic equilibrium. Yet, they address these issues by focusing on processes of adjustment and cumulative dynamics in people's economic behaviors, and prefigure important aspects of the analysis of economic coordination that would later appear so prominently in Rosenstein-Rodan's writings on development.

In the 1933 article for *La riforma sociale*, Rosenstein-Rodan turned to the "special case" of the complementarity of utilities, usually treated as an aside

⁸ Rosenstein-Rodan to Einaudi, 4/IV.1934; 6/VII.1936, AFLE.

⁹ Rosenstein to Einaudi, 21/XI.1930, AFLE. See Kuznets 1930 and Souter 1930.

in early marginalist analysis, into a central question. In particular, he highlighted the complementarity of goods' utilities: "When considering . . . many goods, their best uses are not known in advance, as they depend one from the other: they cannot thus be considered as 'given', but they constitute the unknowns of the problem" (Rosenstein-Rodan 1933: 303). Because of this complementarity of the utilities, the economic plan of an actor must pass necessarily through a number of modifications. But whereas in the 1933 article Rosenstein-Rodan claimed that "the economic subject reaches equilibrium time by time, through a historical process" (Rosenstein-Rodan 1933: 283), one year later, elaborating on the intertemporal dimension of the pricing problem discussed by Erik Lindahl, Hayek, and Gunnar Myrdal (and influenced also by the works of his Italian colleagues, especially Mauro Fasiani and Luigi Amoroso), he contemplated not only the achievement of equilibrium through multiple adjustments, but the very possibility that the economic process might lead to a cumulative dynamic that moves away from equilibrium (Rosenstein-Rodan 1934).¹⁰

The problem of change through time was for Rosenstein-Rodan at the core of economic analysis. Referring to Allyn A. Young's analysis of the modern economic system, according to whom "change becomes progressive and propagates itself in a cumulative way", and at the same time anticipating Gunnar Myrdal's analysis of circular cumulative causation (Young 1928: 533; Myrdal 1957), Rosenstein-Rodan wrote: "the changes of one element may, as a result of the non-simultaneous rhythm of adjustments, give rise to a continual chain of new changes, and a kind of *perpetuum mobile* of changes sets in . . . Either the same oscillations continue, or they increase and we have a case of increasing disequilibrium" (Rosenstein-Rodan 1934: 91). When the problem of development became the central question for the economic debate in the UK, Rosenstein-Rodan was particularly instrumental in importing these concepts into the new debate.

Meanwhile, Rosenstein-Rodan was progressing in his academic career, landing a tenured position at University College London. If the future of Europe was getting darker—Hitler became Germany's Chancellor on January 30, 1933—Rosenstein-Rodan felt that his professional life was

¹⁰ On the origins of the notion of "intertemporal equilibrium", see Milgate 1979 and Currie and Steedman 1989.

taking a positive turn: As he wrote to Einaudi, “I do not want to go back to Germany now [February 1933] . . . The last events made me feel disgusted by this whole world. Now I hope I will be able to live in a quieter environment—I trust I will have a contract here”.¹¹

The European Collapse and the Problem of Economic Backwardness in Central and Eastern Europe

Soon after Hitler seized power, Germany began a rearmament program, reintroduced military conscription in 1935, and in 1936 occupied the Rhineland. On March 12, 1938, the German *Wermacht* invaded Austria and proclaimed the annexation of Austria to Germany. One week later, Hans Mayer, Rosenstein-Rodan’s university mentor and the president of the *Nationalökonomische Gesellschaft*, expelled all the Jewish members of the Association: “to his eternal shame”, as Lionel Robbins commented later.¹² Rosenstein-Rodan was deeply affected by Austria’s fall under Nazi rule. “You can well imagine”, he wrote to Einaudi, “the gloomy mood I have been in this last two months after the last events in Austria”.¹³

To many British observers, Germany’s growing hostility did not come as a surprise.¹⁴ While the Paris peace conference (1919) was still ongoing, several commentators had remarked that the conditions imposed on Germany, specifically the punitive repayment scheme, would be the roots of future conflict. John Maynard Keynes, a member of the British delegation to Paris, left the delegation in frustration and in *The Economic Consequences of the Peace*, exposed the short-sightedness of the Allied attitude towards Germany (Keynes 1920). Like him, others felt that an opportunity to build a solid peace had been lost. Out of this discontent was born, in 1920, the British (later Royal) Institute of International Affairs, also known as Chatham House, which quickly became a prominent think-tank in international relations.¹⁵ Most of all, Chatham House embarked on a

¹¹ Rosenstein to Einaudi, no date but probably February 1933, AFLE.

¹² In Craver 1986a: 30.

¹³ Rosenstein to Einaudi, 31st May 1938, AFLE.

¹⁴ This and the next sections draw in part on Alacevich 2013; 2018.

¹⁵ Bosco and Navari 1994.

major study to avoid repeating, after the end of World War II, the mistakes that had made Europe so unstable after World War I.

Central to this effort was Chatham House's Economic Group. In the war years, it was not easy for Chatham House to find an economist prominent enough to chair it, and when, in September 1941, someone mentioned Paul Rosenstein-Rodan, then acting chair of the Economics Department at University College, London, nobody reacted with enthusiasm. Although "on paper he sounds first-class", several objections were raised about his excessive penchant for theory and his Polish origins.¹⁶ But in the absence of other candidates, Rosenstein-Rodan prevailed, and on October 6th, 1941, Chatham House announced his appointment as Secretary of the Economic Group.¹⁷

There, he set an ambitious agenda around four questions: the economic lessons of the 1930s, the blue-print of the Nazi European Empire, post-war economic collaboration with the United States of America, and a study of the causes of agricultural poverty.¹⁸ For the purposes of this article, two connected questions are particularly relevant, namely the analysis of the Nazi empire, and the causes of (and remedies for) agricultural poverty.¹⁹

In an internal memorandum, the Chatham House Economic Group sketched out what the economic reorganization of Europe would look like once the German conquest was completed. Germany, obviously, would host the industrial core, that is, strategic industries such as iron and steel, mechanical and chemical heavy industries, and financial services. A second area, Eastern Europe, would have a complementary industrial role with the production of cheap industrial goods for German mass consumption. Newly established labor-intensive productions would take advantage of the huge agrarian overpopulation present in the region. The underdeveloped

¹⁶ Margaret Cleeve to A. G. B. Fisher, September 19th, 1941, CHA.

¹⁷ Ibid.; Margaret Cleeve, "Memorandum of talk with Professor Plant", 11th September 1941; J. V. Wilson to Miss Cleeve, 24 September 1941; Committee on Reconstruction. Economic Group, October 6th, 1941, CHA.

¹⁸ Ibid.

¹⁹ The study of the economic lessons of the 1930s produced a book authored by young Australian economist Heinz W. Arndt (1944). The study of the postwar relations between UK and USA did not produce much.

countries of the Mediterranean basin formed the third region, producing agricultural sub-tropical goods.²⁰

Of the various European peripheries surrounding the German core, Central and Eastern Europe acquired a privileged position. Germans considered it a “natural” area of German expansionism, and a fundamental building block of a German continental empire. German’s notions of *Lebensraum* (“living space”) and *Grossraum* (“greater area”) were based on the idea of an expansion of German sovereignty eastward. But non-German observers, too, agreed that the Eastern European region was crucial for the balance of powers at the European and global level. A British geographer, for example, was simply reporting a widely shared opinion when he underscored that whoever rules Eastern Europe would eventually rule Europe and the world (Mackinder 1919). A strong and “developed” Eastern Europe was thus, in British eyes, a necessary bulwark against German expansionism, fundamental to a pacified, non-totalitarian Europe.

Rosenstein-Rodan managed to attract to the Economic Group a broad network of exiled Central European scholars with first-hand knowledge of continental Europe. He also developed an institutional collaboration with a number of exiled governments then based in London, and with economists at Nuffield College and the Institute of Statistics at Oxford. Michael Kalecki, Kurt Mandelbaum, E. F. Schumacher, and Thomas Balogh, all at Oxford during World War II, would also contribute to development economics in the postwar years. Thanks to this broad network, the Economic Group was able to establish a number of technical sub-sections, such as Engineering and Machine Industry, Mining and Heavy Industry, Paper and Timber, Textiles, Foodstuffs, and Transport and Communications, which provided a valuable collection of data on Eastern Europe. Building on some of the main conclusions of the intense research effort of the Chatham House group, in 1943 Rosenstein-Rodan published an article on the problems of industrialization of Eastern and South-Eastern Europe that would set the terms for future development discourse.

Rosenstein-Rodan’s 1943 article is widely known, so it will suffice here to highlight the major features that made it a classic. First, this article marked

²⁰ Rosenstein-Rodan, “Blueprint of the Nazi European Empire,” Economic Group Paper 25, December 5, 1941, CHA.

a strong discontinuity from orthodox analyses of the Eastern European economic crisis. In contrast with the standard laissez-faire approach, according to which Eastern Europe had no comparative advantage in any industrial production, Rosenstein-Rodan claimed that the only way to absorb the excess agrarian population that was keeping agricultural marginal productivity close to zero was to move it to a newly established industrial sector. Moreover, because of the complementarities and the indivisibilities that would necessarily characterize the transition from an agrarian to an industrial economy, the establishment of the new industrial sector could not be left to the vagaries of private initiative, but should be carried out by a regional or State authority, and be comprehensive enough to generate an entirely new market for the new productions. His famous example was that of a shoe factory: in an economic landscape of subsistence agriculture, it would soon fail for lack of demand, but if a new industrial pole were to be established, the different factories would create mutual demand (Rosenstein-Rodan 1943; for an example of the standard laissez-faire approach to the Eastern European crisis, see Balogh 1933). As Joseph Love has shown, in the 1930s an autochthonous nationalist Eastern European tradition had developed in support of regional industrial policies. Yet, it remained mainly confined to a network of local scholars, except for its influence, twenty years later, on the structuralist debate in Latin America (Love 1996). In a very practical sense, Rosenstein-Rodan brought those theories to the heart of the British Empire, for the Chatham House development plans for Eastern Europe implied the notion of British hegemony over the region.²¹

Secondly, as we have seen, Rosenstein-Rodan's analysis put external economies center-stage. Rosenstein-Rodan focused especially on two cases of external economies. First, the new factories would train the workers on-the-job. And second, as mentioned, the individual factories would mutually stimulate demand through their needs for intermediate goods or through the demand for consumption goods by their workers. External economies, of course, had been discussed already half a century earlier by Alfred Marshall and Arthur C. Pigou. Yet, as Rosenstein-Rodan claimed, they had remained a "platonic, unused part of economic theory" (Rosenstein-Rodan 1954: 31; see also Rosenstein-Rodan 1984). The foundations of

²¹ "Proposal for a Private members' Study Group", July 14th, 1939: 2, CHA.

development economics, on the contrary, gave a privileged position to external economies, complementarities and indivisibilities. Finally, the article laid the groundwork for subsequent work on how to plan investments that were both intensive and concentrated in time, in order to achieve the minimum scale and scope necessary for the newly created industrial sector to sustain itself. As we will see below, from the late 1950s this idea became commonly known in the economic literature as the “big push.”

Whereas Rosenstein-Rodan’s 1943 article was still entirely focused on Eastern and South-Eastern Europe, a follow-up 1944 article embraced a global perspective on backwardness as a global phenomenon, which interested at least “five vast international depressed areas” and approximately 80 to 90 percent of the world’s population: the Far East, especially India and China; the colonial empires, and especially Africa; the Caribbean area; the Middle East; and Eastern and South-Eastern Europe. Eastern and South-Eastern Europe, added Rosenstein-Rodan, was “in many respects the most fruitful and interesting field of action, because the solution of the problem there can be envisaged within the life-time of one generation” (1944: 159).

Rosenstein-Rodan’s shift from marginal utility theory to problems of industrial development was of major magnitude, and, as the discussion above shows, it was driven in large part by the research priorities of the Economic Group at Chatham House. The economic backwardness of Eastern and Central Europe caught the attention of scholars and analysts when it was recognized as one weakness among many others (social, political, and military, for example) in the face of Nazi aggression. The economic backwardness of Central Europe, in other words, had actually greatly facilitated the expansion of Nazi European imperialism (Mazower 2008).

In a few years, development discourse became structured around a few theoretical controversies, such as the balanced versus unbalanced growth debate, or analyses of the dual sector model. Yet, it should be remembered that early formulations of core elements of the postwar development theory were initially highly contextual, as they had been elaborated with reference to a specific situation. Interestingly, Rosenstein-Rodan always

minimized this context-specific dimension of his foundational contribution to development economics. In an interview, for example, he said that his 1943 article had been “misleadingly” entitled “Problems of Industrialization of Eastern and Southeastern Europe”, for in actuality “[t]hat was really a general development theory applied to a problem . . . Eastern Europe served as an example of the general thinking and not necessarily as the main purpose”.²² In a private exchange with Joseph Love, Rosenstein-Rodan went even further: “We selected Eastern European countries only as an example for a model of the Third World . . . not because of any interest in Eastern Europe or Germany but only because representatives of the Eastern European governments in exile were in London, and one could use them”.²³ By the time Rosenstein-Rodan was making these statements, the theoretical value of those early analyses had dramatically outgrown their region-specific validity. While Eastern Europe, in the throes of the Cold War, was, for obvious reasons, no longer the target of UK development plans, the role of those ideas as development templates had increased manyfold. Quite understandably, Rosenstein-Rodan made a point of underscoring how those early reflections transcended the borders of 1940s Eastern Europe, but his claim that the Chatham House study had no real relation to the Nazi aggression to Eastern Europe was exaggerated. The archival evidence suggests a different and more complicated story.

Although the archival sources do not offer clues to what prompted Rosenstein-Rodan to shift from utility theory to development issues, the context in which this shift took place is telling. The Keynesian revolution is relevant, not as much for its specific contents as because, in the words of Albert Hirschman, it broke “the ice of mono-economics”, that is, it showed that specific economic conditions required specific, tailored economic theories and policies (Hirschman 1981a: 6). In this respect, Rosenstein-Rodan’s 1943 article was a perfect example of this new attitude. Both Rosenstein-Rodan and Hirschman understood Keynes’s work as a masterful demonstration of the innovative potential of the Marshallian perspective.²⁴ In the 1950s, Hirschman built his strategy of economic

²² Oral history interview, Paul Rosenstein-Rodan, August 14, 1961: 51, WBGA.

²³ Paul Rosenstein-Rodan to Joseph L. Love, May 13, 1981. I am grateful to Joseph Love for sharing this document and for permission to quote from it.

²⁴ I am indebted to Pier Francesco Asso for helping me clarify this point. See also Asso and De Cecco 1987.

development in explicit opposition to Rosenstein-Rodan's "balanced growth" approach, claiming that Rosenstein-Rodan's approach was so flawed that it did not even belong to the field of development economics (Hirschman 1958). It is thus paradoxical that Hirschman's analysis of the influence of the Keynesian revolution on the birth of development economics explains Rosenstein-Rodan's experience at least as well as Hirschman's: suggesting, among other things, that the early disciplinary history of development economics is inextricably linked to the personal trajectories of many émigré economists fleeing Nazi Europe.

In a 1961 interview, Rosenstein-Rodan built a parallel between his proposal for a development corporation for Eastern and South-Eastern Europe and Keynes's plan for what would become the World Bank, implying (with some exaggeration) a proximity between his own thinking about development policies and Keynes's approach to "programming for underdeveloped countries".²⁵ Yet, Rosenstein-Rodan was no Keynesian. As far as economic analysis is concerned, the connection between his studies on marginal utility theory and the subsequent development phase are particularly important. As mentioned above, while studying marginal utility theory, Rosenstein-Rodan had focused on dynamic processes subject to increasing disequilibria. In this respect, the analysis that he had developed at the micro level became useful to examine vicious circles—a fashionable concept in early development theory—at the macro level. Indeed, Rosenstein-Rodan was aware of this link. In his words, "the earlier micro-theory was relevant to development theorists very largely because the Austrian School (unlike the Lausanne School) paid major attention to the *path* towards equilibrium and not only to the conditions of stability which must be satisfied if a point is to be a point of equilibrium".²⁶

Finally, a third influence is discernible in Rosenstein-Rodan's reference to Allyn Young's analysis of increasing returns and the inherently unstable nature of economic progress. As Young put it, "New products are appearing, firms are assuming new tasks, and new industries are coming into being. In short, change in this external field [as opposed to the internal economies of a particular firm] is qualitative as well quantitative", and "movements away

²⁵ Oral history interview, Paul Rosenstein-Rodan, August 14, 1961: 52, WBGA.

²⁶ In Avramovic 1984: 223, emphasis in the original.

from equilibrium, departures from previous trends, are characteristics of it” (Young 1928: 528). Young defined his view of the market as “inclusive”, in the sense that the market was not to be seen as external to industries, but as an aggregate of productive interconnected activities. Further points of contact with Young’s analysis can be discerned in Rosenstein-Rodan’s discussion of the interrelatedness of the supply and demand of different industries, of growth as a self-perpetuating process, of the time factor in economic processes, and of the relationship between market size and formation of a new industrial workforce.²⁷

The end of the war and its aftermath brought tragic personal news to Rosenstein-Rodan. When the German army invaded Poland, Rosenstein-Rodan’s parents and sister moved to Lwów (then a Polish city, now Lviv, Ukraine). Initially under Soviet occupation, the city fell under Nazi authority and the Rosensteins were segregated in the Lwów Jewish ghetto. All communications with London were severed. We know from later accounts that his parents and sister managed to escape from Lwów and move to Warsaw, but tragedy befell his parents, killed by a Polish bandit. Their daughter Erna, though severely injured, survived, and in 1944 moved to Czestochowa and later back to Cracow. It is unclear where Paul found her again, nor do we know anything about their relationship. We know, however, that he remained in some contact with his sister, as he occasionally mentioned her to friends.²⁸

Loss, fortunately, was not the only defining note in Rosenstein-Rodan’s life during the war and the immediate postwar years. A son, Gary, was born to Rosenstein-Rodan and Margaret Williams in 1943 (during an air raid). The

²⁷ Despite his important contributions to economic analysis, Young was long neglected in the post-war years. A resurgence of interest took place in the 1990s, concomitantly with the publication of a biography (Blitch 1995) and a selection of his papers edited and with an introduction by Perry Mehrling and Roger Sandilands (Young 1999). A more recent biography of Young is Chandra 2020. For a discussion of the influence of Allyn Young on development economics, see Currie 1981; 1997. For a criticism of Rosenstein-Rodan’s use of Young, see Perälä 2006.

²⁸ Erna remained in Poland for the rest of her life.

two would marry in September 1946 and remained together for the rest of their lives.²⁹

The Development Discourse in the Postwar Years: The World Bank and Southern Italy

After the end of World War II, the international landscape changed quickly. The deteriorating relationship between the United States and the Soviet Union fully crystallized in the Cold War, which by 1947 was in full swing. Eastern Europe became part of the Soviet sphere of influence, and the analyses prepared by Chatham House to tackle the economic and social backwardness of that region did not have any practical outcome. The Rosenstein-Rodans left London for Washington, DC, where Paul joined the Research Department of the World Bank. But if Eastern Europe became inaccessible territory for the implementation of Chatham House's development plans, the development discourse remained nonetheless important in postwar *Western* Europe. The Cold War and the need to stabilize war-torn Western European countries made poverty and unemployment a central problem of the Western European political agenda, and a matter of concern for Europe's major ally, the United States.

The most vulnerable element in the Western camp seemed to be Italy: its economic recovery was slow and inconclusive, unemployment skyrocketed, and social and political tension, especially in the underdeveloped South, worsened by the day. As for Eastern Europe, economic and social development was considered the principal way to stabilize the country. As an officer of the U.S. State Department put it, "considerable material aid" was necessary to "prevent Italy going communist".³⁰ Specifically, it was clear that the gap between the North and South of Italy had to be reduced, and a development plan for Italy's poorest region, the Italian South or Mezzogiorno, was elaborated. A major partner in this effort was the World Bank.

²⁹ I am very grateful to Ann Backhouse for this discovery. Information about Gary Rodan's birth is in his Facebook public profile, www.facebook.com/gnrodan, visited on September 7, 2019.

³⁰ Quoted in Harper 1986: 109.

Rosenstein-Rodan had a central role in the negotiations between Italy and the Bank, and many of the ideas he had developed at Chatham House fit the Italian situation well.³¹ The Italian Mezzogiorno was characterized by a poor and overpopulated agrarian economy characterized by large, extensively cultivated estates (*latifundia*). In contrast to the usual approach of relying on the Mezzogiorno's alleged comparative advantage in the production of agricultural produce, Rosenstein-Rodan and his colleagues in the Italian government, the Bank of Italy (recall that Einaudi was its postwar Governor until 1948, when he became President of the Italian Republic, as well as the Minister of the Budget for part of that period), and Svimez, a prominent think-tank specializing in Italy's Southern economy, highlighted the need to implement a plan of industrialization. In years characterized by a worldwide dollar shortage and currency inconvertibility, the Bank of Italy was particularly concerned that a domestic investment plan might trigger inflationary pressures due to a combination of rising consumption and reduced export. Rosenstein-Rodan agreed that the World Bank should grant a loan with the specific aim of withstanding the effect that the domestic investment plan would have on the balance of payments. The loan had a clear macroeconomic flavor and departed significantly from the loan policies that top officers at the Bank were trying to establish, which privileged loans for specific, directly productive projects. The first World Bank loan to Italy was disbursed on 1951, followed by seven other loans in fifteen years.

The opposing views between Rosenstein-Rodan and the Bank's top officers on whether the Bank should consider macroeconomic loans a standard practice or not, resulted in Rosenstein-Rodan's increasing marginalization, until he eventually left the bank for MIT. Rosenstein-Rodan remained openly polemically, opposed to the policy choices of his senior colleagues. The impatience was reciprocal. The Bank's vice-president, Robert Garner, commented the end of Rosenstein-Rodan's tenure at the Bank with these words:

I frankly never felt that the Bank was his dish of tea, and he's finally gone to Harvard [actually, to MIT]—to the academic

³¹ Mario Ferrari Aggradi to Antonio D'Aroma, Private Secretary to the President of the Italian Republic, Luigi Einaudi, 27 Oct. 1951, AFLE.

world, where I think his talents lie. I came to the conclusion that the Bank was not the place for the development of broad economic policies or studies, that our job was applied economics, that the world is full of theoretical economists.³²

With his reference to Rosenstein-Rodan's passion for broad studies, Garner was probably referring not just to Rosenstein-Rodan's emancipated approach to loan policies, but also to his proposal to establish within the Bank a new department with no direct operational orientation, devoted to research, and to teaching development practitioners and officers from less developed countries. Rosenstein-Rodan's original idea was at the basis of the establishment, in 1955, of the Bank's Economic Development Institute (EDI), whose first director was the British economist Alec Cairncross. The EDI was considered by some as a precious oasis where the Bank's economists could pause from operations and focus on research, but it also remained a hybrid creature, split between its identities as an academic research department and a vocational school. By the time the EDI was established, however, Rosenstein-Rodan had left.

At the Core of the Development Debate

Rosenstein-Rodan's popularity among economists steadily grew throughout the 1950s. The decade witnessed the publication of many articles that implicitly or explicitly made reference to his work. If ten years earlier, Chatham House had been a relatively unknown center, effectively disconnected from other places where research on economic development was being conducted, in the 1950s, development discourse was acquiring a global dimension, characterized by an international and interconnected community. Rosenstein-Rodan's 1943 and, to a lesser extent, 1944 articles were by then standard references. When in 1952 Rosenstein-Rodan left the Bank, he was hired by the MIT's Center for International Studies (Cenis),

³² Oral history interview, Robert L. Garner, July 19, 1961: 98, WBGA.

destined to become one of the most prominent think-tanks on the development scene.³³

Established in 1951 as a US counterintelligence program to study ways to overcome the jamming of propagandistic American broadcasts to the Soviet Union, the Center soon broadened its activities to, in the words of its director, Max Millikan, “all forms of influencing foreign attitudes” (Blackmer 2002: 9). In the end, Cenis’ research program focused on “the idea of economic development, or industrial growth” in three major development “laboratories”, commonly called “the three I’s”: India, Indonesia, and Italy. Although each very different from the others, all three countries were young democracies committed to a program of economic development, and were considered critical battlegrounds of the global confrontation between the United States and the Soviet Union (Blackmer 2002). Rosenstein-Rodan joined as the director of the Italian project.

Rosenstein-Rodan’s previous experience in Italy facilitated a fruitful exchange of ideas between the Center and the Italian authorities. When in 1954 the Italian government prepared a ten-year national development plan, economists from Cenis played an informal but relevant advisory role. MIT economist Richard Eckaus offered a fundamental contribution on the study of Italy’s North-South economic divide (Eckaus 1959; 1960; 1961). In 1957, Rosenstein-Rodan and the Oxford-based economist I. M. D. Little published a groundbreaking study on peaceful uses of nuclear energy in Italy (Little and Rosenstein-Rodan 1957). Inscribed in the policy shift with which the Eisenhower Administration opened up atomic research for civilian uses and access to nuclear technology for countries that did not possess it, this study supported nuclear power as a strategic element for achieving Italy’s main goals of full employment and self-sustaining economic growth. In fact, the first World Bank loan for the construction of a nuclear power plant was granted to Italy in 1959.

In the second half of the 1950s, Rosenstein-Rodan became the director of the Indian project, while Italy, after the end of the so-called “economic miracle” (1958-63) became increasingly less interesting as a development

³³ On the history of economics studies and teaching at MIT, see Weintraub 2014. For a recent assessment of development economics in historical perspective, see Alacevich and Boianvosky 2018.

laboratory and Cenis dropped it from its research program. Partly, this was due to the success of the industrialization process in the Italian North, with which Italy joined the club of advanced industrial countries (Italy turned from a mainly agricultural to a mainly industrial economy in 1958). But Italy's waning as a protagonist of the global development scene was also due to the failure of the development plan for the South. Despite the copious resources devoted to it, the self-sustained process of industrialization in the South failed to take place. As Rosenstein-Rodan recognized, "the dynamo may be there, but the transmission belt does not work" (Rosenstein-Rodan 1963: 6).

Thanks to the organizational skills of its director Max Millikan, the scholarly excellence of its members, and generous funding from the U.S. Central Intelligence Agency (CIA) and the Ford, Rockefeller and Carnegie foundations, the Center for International Studies soon became one of the leading centers for the elaboration of what came to be known as modernization theory.³⁴ As Rostow's famous model of the "stages of economic growth" exemplified, modernization theory implied the existence of a single trajectory from "tradition" to "modernity" for advanced and less developed countries alike (Rostow 1960). Adopting the Marxian view that "the country that is more developed industrially only shows, to the less developed, the image of its own future" (Marx 1977 [1867]: 91) but reversing Marx's anticapitalistic perspective, Rostow articulated a foreign policy agenda strongly based on development aid strategies.

As a prominent and long-term member of Cenis, Rosenstein-Rodan helped draft a long report that made the case for a massive foreign aid program. This report circulated informally for years and was eventually published in 1957 as *A Proposal: Key to an Effective Foreign Policy* (Millikan and Rostow 1957). Its publication coincided with the beginning of Cenis' increasingly close collaboration with John F. Kennedy, who made foreign aid a qualifying aspect of his Senatorial and Presidential programs. When Kennedy entered the White House, Cenis became a major source of development thinking for the US Administration. As historian Arthur Schlesinger Jr. wrote, *A Proposal* "gave our economic policy toward the

³⁴ On the role of Cenis for modernization theory, see Gilman 2003.

third world a rational design and a coherent purpose”.³⁵ In an article from those years, Rosenstein-Rodan also argued against the usual criticism that foreign aid was a waste of resources. The primary criterion for foreign aid, he claimed, was not to maximize the income created for every dollar of aid, but to maximize the catalytic effect of aid. Investments in infrastructures, for example, yielded only small increases in income, yet they created the landscape for subsequent, more remunerative, projects. Direct income creation from aid, therefore, might be disappointingly low, but Rosenstein-Rodan concluded that “far from being an argument for *less* aid, there are circumstances in which this might well be an argument for *more*” (Rosenstein-Rodan 1961b: 107, emphasis in the original).

Rosenstein-Rodan’s more theoretical work was fundamental background for these policy proposals. His 1943 article was at the basis of a vast literature about investment criteria to promote economic growth in less developed countries. The debate on investment criteria can only be summarily reported here. The question of the choice of labor-intensive vs capital-intensive investments was only one aspect, though very important, of this debate. Despite the frequent disagreements on the proper capital/labor ratio, there was a widespread agreement that a critical minimum investment effort should be put in place, lest the counter-forces set in motion by economic growth would fatally sabotage the effort (most notably population growth and the ensuing Malthusian trap, but also the interactions between the pace of change, the rate of urbanization, and other social transformations). As Walter Galenson and Harvey Leibenstein put it, “If an underdeveloped country is to develop successfully, it is necessary for that country to make a large initial effort to increase output and to do so very early in the development attempt. If the initial or early effort does not reach a critical minimum, then it is likely that the country will revert back to its former underdeveloped stage” (Galenson and Leibenstein 1955: 366; see also Leibenstein 1957).

At a 1957 conference of the International Economic Association in Rio de Janeiro, Rosenstein-Rodan popularized the concept as the theory of the “Big Push” (Rosenstein-Rodan 1957, republished as Rosenstein-Rodan 1961a). In use since World War I to mean “concerted military advance”,

³⁵ Quoted in Gilman 2003: 179.

Rosenstein-Rodan used the term for the first time in 1957 to describe a strategy of industrialization. Ragnar Nurkse, the discussant of the 1957 paper, opened his own remarks on “this interesting new term, the ‘Big Push’” (Nurkse 1961a: 74). According to this concept, a minimum level of resources was necessary for a development program to have any chance of success. As a coeval Cenis report for the US Senate, co-authored by Rosenstein-Rodan, put it, “Launching a country into self-sustaining growth is a little like getting an airplane off the ground. There is a critical ground speed which must be passed before the craft can become airborne; to taxi up and down the runway at lower speeds is a waste of gasoline” (Cenis 1957: 70). Rosenstein-Rodan thus summarized the concept in Rio: “A minimum quantum of investment is a necessary (though not sufficient) condition of success. This is in a nutshell the contention of the theory of the big push” (Rosenstein-Rodan 1957: 1). After 1957, the term became ubiquitous. (It is incorrect to assume, as many scholars do, that the term entered circulation in Rosenstein-Rodan’s 1943 article, perhaps because it was much more famous than the 1957 paper and already contained all the elements of the theory of the “Big Push”.)

At the same time, Rosenstein-Rodan was developing an increasing interest in the Indian Plan (Rosenstein-Rodan 1964a, 1964b, 1964c; 1964d; 1964e) and, together with Richard Eckaus and Louis Lefebvre, in the study of specific technical and engineering aspects of development.³⁶ This research linked the studies pursued at the Center with the work done by MIT engineers and scientists—though less with MIT economists, whose research interests, as Millikan once noted, gravitated “nearer the domestic than international economic problems”.³⁷ Rosenstein-Rodan was a perfect representative of the “intimate interplay” between theory and practice typical at MIT and increasingly acknowledged as an MIT trademark.³⁸ In the words of Paul Krugman (an MIT PhD graduate), MIT style is recognizable in the use of “small models applied to real problems, blending

³⁶ P. N. Rosenstein-Rodan, “CENIS Research Priorities”, December 3, 1962, MITL.

³⁷ Max Millikan, “Report”, February 18, 1964, quoted in Cherrier 2014, p. 31.

³⁸ Max Millikan, quoted in Blackmer 2002: 10.

real-world observation and a little mathematics to cut through to the core of an issue”.³⁹

Increasing visibility, however, brought increasing criticism. At the political level, right-wing pundits such as Alice Widener in the magazine *U.S.A.* and William Buckley in the *National Review* accused Millikan and Rostow of being Socialist sympathizers because of their support for foreign aid and collaboration with Indian planners. At the theoretical level, Rosenstein-Rodan’s analysis of complementarities and indivisibilities and Rostow’s theory of the “Stages of Growth” were attacked by new approaches that discarded vicious circles as a false problem, and emphasized instead bottlenecks and disequilibria as more important mechanisms to explain investments behavior and economic growth in underdeveloped countries. The controversy between the balanced-growth and the unbalanced-growth approach, as those mutually opposed approaches soon came to be known—and its policy pendant, that is, central planning vs. project planning—animated development economics throughout the 1950s and later (Little 1982: 44).

Ragnar Nurkse was among the first to use the term “balanced growth”, in a 1952 lecture in Cairo.⁴⁰ Emphasizing the demand side of balanced growth, Nurkse reposed Rosenstein-Rodan’s example of the shoe factory. As Nurkse explained, the difficulty lay in the inelasticity of demand at low real-income levels, which inhibit the inducement to invest in any individual factory or industry. But as he remarked, “the difficulty disappears in the case of a more or less synchronized application of capital to a wide range of different industries” (Nurkse 1952: 4). As W. Arthur Lewis, among others, noticed, international trade might help narrow the extent of this simultaneous sectoral expansion (Lewis 1955). It should be recalled, however, that currency inconvertibility for most of the 1950s induced a general pessimism about trade as an engine of growth. While in Cairo Nurkse did not mention Rosenstein-Rodan, he did so in his paper delivered

³⁹ Quoted in Cherrier 2014, p. 16. On the MIT peculiar style, with a special focus on the economics department, see Thomas 2014.

⁴⁰ The term was already in circulation in the context of international finance. In development economics, to the best of my knowledge, it was first used by Nurkse and by Birendranath Ganguli of the University of Delhi, see Ganguli 1952. I am grateful to Kevin Hoover for noticing the use of “balanced growth” in international finance and directing me to Ganguli’s article.

to the American Economic Association in December of the same year, concluding, like in Cairo, “here, in a nutshell, is the case for balanced growth” (Nurkse 1953a: 572).⁴¹ Thenceforth, like in the case of the “Big Push”, Rosenstein-Rodan’s 1943 article was considered the opening salvo of the “balanced growth” doctrine.⁴²

The principal opponent of the balanced growth theory, Albert Hirschman, wrote in 1958 that, though perhaps correct in highlighting possible strictures and bottlenecks in the process of economic growth, the theory failed to offer any substantive description of the mechanisms through which the economy could advance *despite* the bottlenecks and the inherent imbalances in the development of the different sectors. In other words, according to Hirschman, the balanced growth approach seemed unable to explain change, and thus it failed “as a theory of *development*” (Hirschman 1958: 51, emphasis in the original).

Hirschman insisted that development policies should focus on specific projects instead of programs, on directly productive activities instead of social overhead capital, and on spontaneous linkages between investment opportunities instead of comprehensive plans. Yet, this was perhaps an excessive criticism. When Rosenstein-Rodan favored programs over projects, he did so on the basis that a program “must be spelled out in projects, not only ‘ideas’, but it is far more than a mere agglomeration or a ‘shopping list’ of projects”.⁴³ Meaningful projects, according to Rosenstein-Rodan, were those with a “catalytic effect of mobilizing additional national effort”, and the program was thus nothing else than a way to envision the catalytic effect of single projects, how they could be expected to trigger additional investments, in which sectors, and so on.⁴⁴

The opposition between the two approaches of “balanced” and “unbalanced” growth stimulated a vast but ultimately inconclusive

⁴¹ Others, such as W. Arthur Lewis, highlighted the danger of imbalances on the supply side, for example if the agricultural and industrial sector grow at different rates (Lewis 1955).

⁴² Further discussions of the balanced-growth approach are in Nurkse 1953b; 1959; 1961b; and Scitovsky 1954.

⁴³ P. N. Rosenstein-Rodan, “Criteria for Allocation of Aid to Countries”, Preliminary Draft, 1956: 6, MITL.

⁴⁴ *Ibid.*: 3.

literature. Even another prominent champion of the unbalanced-growth approach, Paul Streeten, admitted that in retrospect the controversy seemed to him “a sham dispute”.⁴⁵ In 1970, Lauchlin Currie suggested that Hirschman’s unnecessary lumping together of “balanced growth” and the “Big Push” distracted attention from the more important problem of where and how to concentrate effort to trigger cumulative development processes (Currie 1970 [2017]). Hirschman was not alone in conflating the two concepts. Bert Hoselitz, for example, argued that the “Big Push” could appear either in the guise of the “balanced growth” theory or of Leibenstein’s “critical minimum effort” theory, thus offering yet another version of the relationship between these concepts (Hoselitz 1960: 469).

In retrospect, it is more helpful to focus not on the balanced-unbalanced dichotomy but on the implicit or explicit references that all these scholars made to the fundamental importance of complementarities, increasing returns, and investment-inducing disequilibria. As Phillip Toner wrote, “distinguishing balanced and unbalanced growth models is not well founded”, for “the core analytical tools of both models are the same. The models are substantially elaborations on the concept of circular and cumulative causation as developed by Allyn Young” (Toner 1999: 25). In this sense, one cannot help noticing a certain family resemblance between Rosenstein-Rodan’s “catalytic effects” and Hirschman’s “linkages”. In sum, a growth-inducing critical minimum effort was on everybody’s minds.⁴⁶ And in any case, if there was one thing Hirschman and Rosenstein-Rodan agreed on, it was the structural difference between developed and underdeveloped countries: as Rosenstein-Rodan put it in the class notes for his 1958 course on *The Theory of Economic Growth*, “there exist certain economic and non-economic factors which cause the difference and necessitate the formulation of a separate theory for underdeveloped countries”.⁴⁷

In time, Cenis expanded its focus to Africa and Latin America, thanks especially to a number of grants from the Carnegie Corporation. Rosenstein-Rodan’s increasing interest in Latin American was probably

⁴⁵ As quoted in Alacevich 2011: 169. See Streeten 1959.

⁴⁶ For a reassessment of those early debates, see Alacevich 2009 and 2011.

⁴⁷ Paul Rosenstein-Rodan, “*The Theory of Economic Growth*”, notes for the class of September 25, 1958, HGARC.

also triggered by his contacts with the Kennedy Administration. When, as part of his diplomatic initiative towards Latin America, President Kennedy launched the Alliance for Progress between the US and Latin American countries, Rosenstein-Rodan was one of the “nine wise men” appointed with the task of reviewing the performance of participating countries and providing recommendations.⁴⁸ Unlike other development economists who were notoriously cold about what looked like a patronizing move on the part of the United States, Rosenstein-Rodan embraced the project enthusiastically.⁴⁹ As he said to an audience at Wellesley College on February 1963, “Economic development of underdeveloped countries is to our generation what full employment was to the generation of the 1930s: an ideal, a target . . . The Alliance for Progress is the most complete and the most articulate manifesto of that creed”.⁵⁰ By the mid-1960s, however, Rosenstein-Rodan was deeply upset that politics as usual was taking control of the Alliance. The Committee of Nine, initially conceived as an independent body with strong influence over the allocation of development aid, was soon put under the political control of the Organization of American States, and Rosenstein-Rodan resigned from his position.⁵¹

The Decline of Development Economics

After fifteen years at the Center for International Studies at MIT (tenured in 1959, thanks to a grant from the Ford Foundation, and promoted to full professor in 1960), in 1968 Rosenstein-Rodan decided that the time had come to leave. As with his shift to development issues in the early 1940s, archival documents do not provide any information on what prompted this

⁴⁸ Kennedy’s proposal was first formulated in a presidential address at the White House Reception for Latin American Diplomats, Members of Congress and their Wives, March 13, 1961, <https://www.jfklibrary.org/asset-viewer/archives/JFKPOF/034/JFKPOF-034-013>, accessed on March 9, 2019. On the Alliance for Progress, see Hickman (2013) and Taffet (2007).

⁴⁹ Rosenstein-Rodan’s intellectual rival, Albert Hirschman, who had just published a very interesting book, *Latin American issues* (1961a), was also invited to participate as an expert in the Alliance for Progress but declined (Adelman 2013, p. 361). Hirschman criticized the patronizing attitude of the Alliance for Progress (1961b).

⁵⁰ P. N. Rosenstein-Rodan, “The Alliance for Progress”, February 13, 1963, HGARC.

⁵¹ Rosenstein-Rodan to Jose A. More, Secretary General, Organization of American States, April 26, 1966, HGARC.

decision, but we do know the broader context. First, there was a widespread feeling that the first phase of life of the Center was coming to an end. As Donald Blackmer, the Center's Assistant Director, recognized in an early 1967 memo to his colleagues, "the feeling is that the Center has lost something of that special vitality and cohesiveness that have in the past done so much to distinguish it from other research organizations".⁵² To be sure, this was also the effect of positive developments in the life of the Center: teaching offerings had expanded, graduate education and fellowships had been established and were growing in numbers, faculty members were granted tenure, and the Center's relationship with the departments of Economics and Political Science was strengthened (Blackmer 2002: 138-144). Yet, this also served to dilute the sense of mission of the Center, as "other obligations and loyalties intervened".⁵³ Moreover, the intellectual balance between economists and other social scientists was slowly but irremediably changing. While in its early years, the Center had been monopolized by economists, by the early 1960s economists were in the minority (Blackmer 2002: 151).

The crisis that hit development economics in the late 1960s—due to disputes about the theoretical foundations of the discipline, and to a growing disappointment in the meager results of many development efforts worldwide—played an important part in deflating the role of development economists at the Center. While it is undoubtedly positive that other social sciences increased their contribution to the Center's activities, Rosenstein-Rodan may have felt that his own role was becoming less relevant. The abrupt collapse of the India project, the result of a diplomatic impasse between Cenis and the Indian government around CIA funding of Cenis' activities, may have also contributed to Rosenstein-Rodan's disenchantment.⁵⁴ In any case, in the late 1960s it was not only development economics that was beginning to show signs of decline: modernization theory was increasingly under question, both as a scientific project—it was clear that economic growth and democratic social transformation did not necessarily go together—and as a political platform for US intervention in underdeveloped countries. Finally, one wonders

⁵² Donald L. M. Blackmer, early 1967, in Blackmer 2002: 204, MITL.

⁵³ Donald L. M. Blackmer, early 1967, in Blackmer 2002: 204, MITL.

⁵⁴ The episode is told in Blackmer 2002; Engerman 2003.

whether the protests that spread against the Vietnam War on many campuses of the Boston area may have also contributed to Rosenstein-Rodan's decision to leave.

Whichever the reason, in 1972 Rosenstein-Rodan was back in Massachusetts, as the founder and first director of the Center for Latin American Development Studies at Boston University (CLADS; now Institute for Economic Development, IED).⁵⁵ Rosenstein-Rodan's plans for the Center were bold; the goal was to make it the gravitational center of Latin American studies of New England, and Latin American studies were in turn, in his view, a particularly valuable "history- and geography-made laboratory experiment . . . of interest in the study of the whole Third World".⁵⁶

In this new capacity, Rosenstein-Rodan continued work that he had initiated while at Cenis. In particular, when the India project had ended, Rosenstein-Rodan, Eckaus and Millikan started a collaboration on research and training with the office of development planning in Chile, ODEPLAN, established during the presidency of Eduardo Frei (1964-70). The goal of ODEPLAN, as Eckaus and Rosenstein-Rodan wrote in the introduction to a book that collected the projects' main results, was to understand current problems of the Chilean economy, and to produce general methodologies useful for future research. In line with the MIT-Cenis approach, the program could be characterized as "policy-oriented economic research" (Eckaus and Rosenstein-Rodan 1973: v).

As the director of the Center for Latin American Development Studies at Boston University, Rosenstein-Rodan's publishing record, previously intermittent, virtually ended. The number of reports on specific Latin American countries and issues, however, grew rapidly. This was mostly behind-closed-doors work, to which Rosenstein-Rodan added the occasional public lecture. It was on one of these occasions that Rosenstein-Rodan's reputation as a public intellectual abruptly came crumbling down.

On September 11, 1973, Salvador Allende's elected government of Chile was overthrown in a coup orchestrated by General Augusto Pinochet.

⁵⁵ <http://www.bu.edu/econ/centers/ied/>

⁵⁶ P. N. Rosenstein-Rodan, "Draft of speech to B.U. Trustees", December 1, 1972, HGARC.

Allende mounted an armed defense of the Presidential palace, killing himself before being captured by the military. Leftist political parties were banned, the constitution suspended, and a ferocious repression of political opponents, union officers, and random citizens swept the country, with thousands of individuals tortured and summarily executed and tens of thousands of political dissidents (or people simply suspected of being political dissidents) held prisoner in the basements of National Stadium in Santiago.

In a surprising move, especially considering the Rosenstein-Rodan family's experiences with the murderous activities of the Nazis, Paul Rosenstein-Rodan's comments on Pinochet's coup sounded much more supportive of the military junta than of Salvador Allende's administration. "Salvador Allende", Rosenstein-Rodan said in a talk at Boston University, "died not because he was a socialist, but because he was an incompetent" (Rosenstein-Rodan 1974a: 7). Rosenstein-Rodan continued with an aseptic analysis of Allende's economic program, accusing him of having redistributed income massively, and therefore increased demand without increasing production correspondingly. As a consequence, he argued, inflation, vertical loss of foreign exchange, and social tensions prepared the ground for the overthrow of Allende: "The people almost wished for a military coup", he concluded (1974a: 13). This reading of events was not significantly different from that of Pinochet's inner circle. For example, in February 1974 the first minister of Economy, Development and Reconstruction in Pinochet's junta, Fernando Léniz, claimed before the Subcommittee of the Inter-American Committee of the Alliance for Progress that "the serious events which occurred during the last three years led to such a crisis of the political, economic, and social systems, that the Armed Forces had to intervene so as to reestablish the fundamental values that had always been the backbone of our life as an organized society".⁵⁷

Rosenstein-Rodan read the coup as a turbulent but necessary transition to a more moderate and sensible political climate: "Despite the excesses of the generals . . . I still suspect that their concept of the ideal leader is not Mussolini or Franco but De Gaulle" (1974a: 13). And indeed, in his reply to

⁵⁷ In Orrego Vicuña 1975: 203.

Léniz, Rosenstein-Rodan agreed that Chile needed both economic and moral reconstruction, to reestablish social harmony, “and with it the ‘Chile Lindo’ which we all loved and love still” (Rosenstein-Rodan 1974b: 221). Not unexpectedly, Rosenstein-Rodan’s words caused great indignation, and a considerable number of letters to national newspapers.⁵⁸

The protests intensified in October 1974, when Rosenstein-Rodan organized a conference at CLADS on “The inter-American system and the economic situations of Latin American nations”, with participants such as Jan Tinbergen, Raúl Prebisch, and former president of Colombia Carlos Lleras Restrepo. The presence of Eduardo Frei, president of Chile before Allende and initially a Pinochet supporter, and of Robert S. McNamara, US Secretary of Defense in the crucial years of the escalation in Vietnam and in the 1970s president of the World Bank, electrified the audience. Student protests interrupted the first day of the conference, which was subsequently closed to the public. A number of speakers postponed or cancelled their arrival, and the CLADS offices were assaulted, with staff members “barricading the doors with file cabinets and tables”.⁵⁹ Rosenstein-Rodan threw oil on the fire by declaring to *The Daily Free Press*, the student-operated newspaper serving the Boston University community, that he had visited Chile three times in the weeks immediately following the coup, with two follow-up trips in March and August 1974, and that he supported the coup as it attempted to reconstruct the Chilean economy.⁶⁰ Another students’ daily was abrasive: “Paul N. Rosenstein-Rodan is not a fascist. He is a liberal. But he advises the fascist Latin American governments . . . He may talk with an accent and a tone and a warmth that would remind you of your East-European grandfather. But he loses his warmth when you look at his research, his advice, and the people he advises”.⁶¹

Rosenstein-Rodan was adamant in dismissing as unimportant both the atrocities of the coup and the political and economic sabotage of the

⁵⁸ Many of them in HGARC.

⁵⁹ Petra Langer, Rich Teich and Richard Wolf, “Protest disrupts CLADS conference”, *The Daily Free Press*, October 17, 1974: 2.

⁶⁰ Gary Fusfield and John Rasmus, “How to help the Junta without really trying”, *The Daily Free Press*, September 24, 1974: 4.

⁶¹ Doug Farquhar, “The man from CLADS keeps his tale fresh”, *The News*, October 17, 1974.

Allende government by the United States and multilateral organizations such as the World Bank.⁶² It should be remembered that the role of CIA in supporting the Chilean truckers' strike, which dealt a terrible blow to the country's economy and democratic institutions, had already been unveiled by the US press in September 1974.⁶³ Though archival evidence shows that Rosenstein-Rodan acted on behalf of people incarcerated by the Pinochet's regime, obtaining at least in one case their release, "it was clear", according to a colleague of his, "that Rodan supported the coup in Chile, which generated widespread indignation in the profession and a number of people stopped talking to him".⁶⁴

Perhaps to reacquire at least part of the credibility he had lost, later Rosenstein-Rodan acknowledged that what he imagined would be a violent but temporary reaction against Allende's government was in fact a much more serious affair, both at the national and international level. He also highlighted the emergence of human rights as a global discourse, following the many instances in which the newly elected President of the United States, Jimmy Carter, emphasized its centrality in the international agenda of the new administration. In early 1978, only five years after Pinochet's coup, Rosenstein-Rodan claimed: "Let us welcome the re-emergence of moral values and the postulate of human rights in world politics".⁶⁵ More specifically, as far as international aid was concerned, he claimed: "*No economic or military aid is to be given wherever torture is applied*... We need not (and should not) break off normal economic relations (trade and investment) with the Soviet bloc, with the Philippines, Chile, Uruguay,

⁶² Kapur, Lewis and Webb reported that many observers complained that the World Bank "buckled too easily to out-of-channels pressures from its country owners, especially the largest" (1997: 20). A notable example is the Bank's refusal to make any loans to Chile during the presidency of Salvador Allende. Mahbub ul Haq, Director for Policy Planning at the World Bank since 1972, wrote in a confidential memo to Robert McNamara, then President of the Bank: "we mumbled about exchange rates, fiscal balance and price distortions, without ever trying to establish a link between our theology and Allende's concerns," quoted in Kapur, Lewis and Webb 1997: 301.

⁶³ See, for example, "The C.I.A. in Chile", *The New York Times*, September 16, 1974: 34; Seymour M. Hersh, "C.I.A. Is Linked to Strikes in Chile That Beset Allende", *The New York Times*, September 20, 1974: 1.

⁶⁴ Personal written communication to me. For Rodan's intervention in favor of a person incarcerated by the Junta, see Enrique Kirberg to Rosenstein-Rodan, November 1975, HGARC.

⁶⁵ "Human Rights" (Talk on the television, "Aquí"), February 1978, HGARC.

Mississippi, Missouri, or South Boston. But *AID* is a different matter. To give aid to governments who practice torture is to be their accomplices”.⁶⁶ The contrast with his previous comments on Pinochet’s coup is impressive and suspect. In fact, Rosenstein-Rodan continued to maintain that there was a difference between a brief interruption in the democratic process due to a temporary emergency, and longer dictatorships.

The Chile affair was not only a difficult period in Rosenstein-Rodan’s personal career, but an alarm bell for the whole development field. By the mid-1970s, development economics had been in deep crisis for about a decade, and Pinochet’s coup was a deafening denunciation of its failure. Not only had postwar growth not managed to close the gap between rich and poor countries, but it was evident that growth had often been accompanied by increasing inequality. Moreover, as Albert Hirschman wrote, there was “another, often unacknowledged, reason for the disenchantment: it looks increasingly as though the effort to achieve growth, whether or not successful, brings with it calamitous side effects on the political realm, from the loss of democratic liberties at the hand of authoritarian, repressive regimes to the wholesale violation of elementary human rights” (Hirschman 1979: 98-99). Rosenstein-Rodan may have minimized the importance of the events in Chile, but they nonetheless deeply undermined the discipline that he had contributed to shape.

The crisis of development economics was to be found in the facts of development aid policies. In the late 1970s and early 1980s, the flow of aid resources from developed to underdeveloped countries was visibly weaker than before. The vision that many development economists had entertained of a global welfare system that would transfer resources from richer to poorer countries had remained an illusion. Gunnar Myrdal, for example, had insisted on the broadening of the welfare state to the concept of a “welfare world” (Myrdal 1956: 324). Like Myrdal, Rosenstein-Rodan also paralleled development aid at the international level to welfare transfers at the national level: “Civilizations begins with taxation. If we are an international community we must do what we have done at home”.⁶⁷

⁶⁶ Ibid. Emphasis in the original.

⁶⁷ P. N. Rosenstein-Rodan, “Speech by Professor P. N. Rosenstein-Rodan at the ECLA Meeting”, Port-au-Spain, 12th May 1975, HGARC.

In addition to development failures and the unanticipated calamitous political side-effects of the development effort, there are explanations for the collapse of development economics in the 1970s. Among these is the lack of analytical clarity on the part of development economists. As Paul Krugman wrote, “high development theory was virtually buried, essentially because the founders of development economics failed to make their points with sufficient analytical clarity to communicate their essence to other economists” (Krugman 1993: 16). Others have criticized Krugman’s claim. But irrespective of its accuracy, this debate misses a larger point about the transformation of development economics from the 1970s onward, namely, the discipline’s shift from grand theories to applied economics.

Starting in the 1970s, the increasing theoretical homogeneity of the economics discipline, due to the marginalization of institutional analyses and the hegemony of neoclassical theory and mathematical modeling, was accompanied by an increasing application of a shared orthodox theoretical core to a number of different applied fields (Morgan and Rutherford 1998). In this process of “unification and fragmentation”, in the words of Backhouse and Cherrier (2014: 12; see also Backhouse and Cherrier 2017), development economics lost its theoretical singularity to be reabsorbed within the neoclassical tradition. Yet, at the same time it survived and thrived as an applied field.

Conclusion

Rosenstein-Rodan was a pioneer of development economics. The discipline, or what has remained of it as an applied field of the mainstream, however, does not seem today to have much affinity with its early iterations. One difference is that current development economics is “strictly grounded in neoclassical economic analysis” (Rodrik 2007: 3), whereas Rosenstein-Rodan and his fellow postwar development economists imagined a sub-discipline with a strong theoretical core directly modeled on the exigencies of less developed countries. Also, unlike current development economics, which increasingly resembles a fragmented form of applied microeconomics, Rosenstein-Rodan and his generation offered much more ambitious visions for economic development. As we have seen, those were

the years that Paul Krugman appropriately labeled the glory days of “high development theory”.

Despite these important differences, Rosenstein-Rodan’s experience is instructive for our understanding of current development economics. In the first place, Rosenstein-Rodan’s emphasis on the need of a simultaneous expansion of many different industrial sectors has been recuperated by economic analysis in the last quarter of the twentieth century as an example of what in modern terms is called “coordination failure” that leads to a low-level equilibrium. Hence, Rosenstein-Rodan urged a coordinated investment plan, whereas Hirschman insisted on unplanned inducement mechanisms. But as Hirschman recognized already in 1960, his unbalanced approach was not too different from the planning approach of his intellectual adversaries. As he put it, “Those who stress the importance of balanced growth have made an important contribution by recognizing that various investments and economic activities depend on each other”, concluding that “unbalanced growth means . . . to look at the dynamics of the development process *in the small*” (Hirschman 1961c: viii-ix, emphasis in the original). The concepts of complementarities, demand spillovers, and the shift “from a bad to a good equilibrium”, in the words of an article programmatically entitled “Industrialization and the Big Push”, is precisely what modern development theory has recuperated from those early debates (Murphy, Shleifer and Vishny 1989: 1003). Indeed, Debraj Ray argued that “much of recent thinking in development can be traced to the insights of these two eminent writers”, that is, Rosenstein-Rodan and Hirschman (Ray 2000: 3).

Likewise, in an article whose starting point was once again Rosenstein-Rodan’s 1943 contribution, Karla Hoff emphasized the importance of Rosenstein-Rodan’s early intuitions for recent development economics, but she also highlighted some differences. While Rosenstein-Rodan had focused primarily on a closed economy, recent development economics considers international trade an important channel to introduce complementarities. Spillovers, moreover, are not limited to demand, but also involve the technology of individual agents, “spillovers mediated by social or political interactions, information externalities, and spillovers when agents come together through a search process”, like in the labor market (Hoff 2001: 146) This results in a potential multiplication of

coordination problems. Finally, if Rosenstein-Rodan argued that coordination should be enforced by the state or a regional development corporation, in the early 2000s the goal was “to try more limited interventions to harness the spillovers among agents, and to try to sequence policy reforms in a way that makes it more likely for good equilibria to emerge” (Hoff 2001: 146). And yet, despite these differences, as Hoff argued, Rosenstein-Rodan’s basic intuition was validated (Hoff 2001: 168).

But the trajectory of Rosenstein-Rodan sheds light on two other important elements of current development economics (indeed, of economics tout-court). The first is that the work of an economist is not limited to writing and publishing. To be sure, “publish or perish” is not a threat to be taken lightly, but one should not forget that it applies in particular to the academy. In all other types of organizations this rule does not apply, and when it is enforced, its results are questionable. When Angus Deaton reviewed internal research at the World Bank between 1998 and 2005, he blamed the “publish or perish” approach for the “large number of less than outstanding papers” written by Bank researchers, “driven too much by the concerns of journals and their referees and too little by the policy needs of the Bank” (Deaton et al. 2006: 7).

Rosenstein-Rodan held an indisputably pre-eminent position in the development field without a distinguished publication record (his most famous publication remains his 1943 article) because of the peculiar role he carved for himself throughout his career. Much of his influence stemmed from his position at the center of research networks where he oriented research and policies. As MIT’s David Blackmer comments, Rosenstein-Rodan’s “considerable influence was usually exerted through conversation and personal contact, not the written word” (Blackmer 2002: 85). So, in a sense, if Rosenstein-Rodan’s theoretical contribution is very important but limited to a specific period of his activity, his role in transforming development economics into a solid applied field characterized his entire career.

Finally, the second element that the career of Rosenstein-Rodan illuminates has to do with the difficulties and dangers—if not practical, moral—to which those considered to be “experts” are exposed. The hubris shown by

so many postwar modernization theorists about the progressive nature of their theories and the legitimation that they derived from it is too clamorous to pass unnoticed. Walt Rostow was the most exemplary case of this attitude, but Rosenstein-Rodan was not immune either.⁶⁸ Perhaps it was in the air; in the mid-1950s, when modernization theory was about to emerge as the dominating perspective in American social sciences, Lewis Mumford wrote that utopians seek to inhabit both the actual world and their “idolum”, that is, an idealized “inner world . . . or world of ideas” that conforms to their ends without consideration of any means (Mumford 1955: 13). Rosenstein-Rodan considered himself a practical man, but his pursuit of the development idolum led him to forget that the actual world is populated by living beings.

References

Alacevich, Michele. 2009. *The Political Economy of the World Bank. The Early Years*. Stanford: Stanford University Press

Alacevich, Michele. 2011. “Early Development Economics Debates Revisited.” *Journal of the History of Economic Thought* 33(2): 145-171

Alacevich, Michele. 2013. “Postwar development in the Italian Mezzogiorno. Analyses and policies.” *Journal of Modern Italian Studies* 18(1): 90-112

Alacevich, Michele. 2018. “Planning Peace: The European Roots of the Post-War Global Development Challenge.” *Past & Present* 239: 219-264

Alacevich, Michele and Mauro Boianovsky, eds. 2018. *The Political Economy of Development Economics: A Historical Perspective*. Supplemental issue to vol. 50 of *History of Political Economy*. Durham: Duke University Press

Arndt, Heinz W. 1944. *The Economic Lessons of the Nineteen-Thirties*. London: Oxford University Press

⁶⁸ Paul N. Rosenstein-Rodan died of a heart attack on Sunday, April 28, 1985, at Beth Israel Hospital in Boston, <http://www.nytimes.com/1985/04/30/us/paul-rostenstein-rodan-dies-noted-adviser-on-economics.html>.

- Asso, Pier Francesco and Marcello De Cecco. 1987. "Introduction." In Albert O. Hirschman, *Potenza nazionale e commercio estero. Gli anni Trenta, l'Italia e la ricostruzione*, 7-40. Bologna: Il Mulino
- Avramovic, Dragoslav. 1984. "Comment to Paul Rosenstein-Rodan, *Natura Facit Saltum: Analysis of the Disequilibrium Growth Process*." In Meier and Seers 1984: 222-226
- Backhouse, Roger and Béatrice Cherrier. 2014. "Becoming Applied: The Transformation of Economics after 1970." Mimeo, version 1.12
- Backhouse, Roger and Béatrice Cherrier. 2014. "The Age of the Applied Economist: The Transformation of Economics since the 1970s." In *The Age of the Applied Economist: The Transformation of Economics since the 1970s*, edited by Roger Backhouse and Béatrice Cherrier. *History of Political Economy* 49 (supplement): 1-33
- Balogh, Thomas. 1933. "Theoretical Aspects of the Central European Credit and Transfer Crisis." *International Affairs* 11(3): 346-369
- Bhagwati, Jagdish N. 2000. *The Wind of the Hundred Days: How Washington Mismanaged Globalization*. Cambridge: MIT Press
- Blackmer, Donald L. M. 2002. *The MIT Center for International Studies. The Founding Years, 1951-1969*, Cambridge: MIT Center for International Studies
- Blitch, Charles P. 1995. *Allyn Young: The Peripatetic Economist*, New York: St. Martin's Press
- Bosco, Andrea and Cornelia Navari, eds. 1994. *Chatham House and British Foreign Policy, 1919-1945. The Royal Institute of International Affairs during the Inter-War Period*, London: Lothian Foundation Press
- Cenis. 1957. *A Study Prepared at the Request of the Special Committee to Study the Foreign Aid Program. United States Senate*, Washington: Government Printing Office
- Chandra, Ramesh. 2020. *Allyn Abbott Young*, Basingstoke: Palgrave Macmillan

Cherrier, Beatrice. 2014. "Toward a History of Economics at MIT, 1940–72." In Weintraub 2014: 15-44

Craver, Earlene. 1986a. "The emigration of the Austrian economists." *History of Political Economy* 18(1): 1-32

Craver, Earlene. 1986b. "Patronage and the Directions of Research in Economics: The Rockefeller Foundation in Europe, 1924-1938." *Minerva. A Review of Science, Learning and Policy* 24(2-3): 205-222

Currie, Lauchlin. (1970) 2017. "The Big Push and Balanced and Unbalanced Growth." In Roger J. Sandilands, "Albert Hirschman, Lauchlin Currie, 'Linkages' Theory, and Paul Rosenstein Rodan's 'Big Push'." *Discussion Papers in Economics, 17-2017*, University of Strathclyde: 11-25

Currie, Lauchlin. 1981. "Allyn Young and the Development of Growth Theory." *Journal of Economic Studies* 8(1): 52-60

Currie, Lauchlin. 1997. "Implications of an Endogenous Theory of Growth in Allyn Young's Macroeconomic Concept of Increasing Returns." *History of Political Economy*, 29(3): 413-443

Currie, Martin and Ian Steedman. 1989. "Agonising Over Equilibrium: Hayek and Lindahl." *Quaderni di storia dell'economia politica* 7(1): 75-99

Deaton, Angus, et al. 2006. *An Evaluation of World Bank Research, 1998–2005*. Mimeo, September 24

Eckaus, Richard S. 1959. "The Development of Regional Economic Differentials in Italy: North and South after Unification." Italy Project, Center for International Studies

Eckaus, Richard S. 1960. "The Development of Regional Economic Differentials in Italy: North and South at the Time of Unification." Italy Project, Center for International Studies

Eckaus, Richard S. 1961. "The North-South Differential in Italian Economic Development." *Journal of Economic History* 21(3): 285-317

Eckaus, Richard S. and Paul N. Rosenstein-Rodan, eds. 1973. *Analysis of Development Problems. Studies of the Chilean Economy*, Amsterdam: North-Holland

- Ellis, Howard S. and Henry C. Wallich, eds. 1961. *Economic Development for Latin America*, New York: St. Martin's
- Engerman, David. 2003. "West Meets East: The Center for International Studies and Indian Economic Development." In David C. Engerman et al. (eds.), *Staging Growth. Modernization, Development, and the Global Cold War*. Amherst and Boston: University of Massachusetts Press
- Galenson, Walter and Harvey Leibenstein. 1955. "Investment Criteria, Productivity, and Economic Development." *Quarterly Journal of Economics* 69(3): 343-370
- Ganguli, Birendranath N. 1952. "Principles of Protection in the Context of Under-Developed Countries." *Indian Economic Review* 1(1): 21-38
- Gilman, Nils. 2003. *Mandarins of the Future. Modernization Theory in Cold War America*. Baltimore: Johns Hopkins University Press
- Harper, John L. 1986. *America and the Reconstruction of Italy, 1945-1948*. Cambridge: Cambridge University Press
- Hickman, Christopher. 2013. "The Kennedy Administration's Alliance for Progress and the Burdens of the Marshall Plan." *Federal History* 5: 75-98
- Hirschman, Albert O. 1958. *The Strategy of Economic Development*, New Haven: Yale University Press
- Hirschman, Albert O., ed. 1961a. *Latin American Issues: Essays and Comments*, New York: Twentieth Century Fund
- Hirschman, Albert O. 1961b. "Second Thoughts on the Alliance for Progress." *The Reporter*, 25 May 1961: 20-23
- Hirschman, Albert O. 1961c. "Preface to the Paperbound Edition." In Albert O. Hirschman, *The Strategy of Economic Development*. New Haven: Yale University Press, (1958) 1961
- Hirschman, Albert O. 1979. "The turn to authoritarianism in Latin America and the search for its determinants." In Hirschman 1981b: 98-135
- Hirschman, Albert O. 1981a. "The Rise and Decline of Development Economics." In Hirschman 1981b: 1-24

- Hirschman, Albert O. 1981b. *Essays in Trespassing. Economics to Politics and Beyond*. Cambridge: Cambridge University Press
- Hoff, Karla 2001. "Beyond Rosenstein-Rodan: The Modern Theory of Coordination Problems in Development." In *Annual World Bank Conference on Development Economics 2000*, 145-176, edited by Boris Pleskovic and Nicholas Stern. Washington: The World Bank
- Kapur, Devesh, John P. Lewis, and Richard Webb. 1997. *The World Bank: Its First Half Century*, Vol. 1, Washington: Brookings Institution Press
- Keynes, John M. 1920. *The Economic Consequences of the Peace*, New York: Harcourt, Brace and Howe
- Krugman, Paul. 1993. "Toward a Counter-Counterrevolution in Development Theory." In *Proceedings of the World Bank Annual Conference on Development Economics 1992*, 15-38, edited by Lawrence H. Summers and Shekhar Shah. Washington: The World Bank
- Kuznets, Simon. 1930. Equilibrium Economics and Business-Cycle Theory. *The Quarterly Journal of Economics* 44(3):381-415
- Leibenstein, Harvey. 1957. *Economic Backwardness and Economic Growth. Studies in the Theory of Economic Development*. New York: John Wiley
- Lewis, W. Arthur. 1955. *The Theory of Economic Growth*, Homewood: Richard Irwin
- Little, I. M. D. 1982. *Economic Development. Theory, Policy, and International Relations*. New York: Basic Books
- Little, I. M. D. and P. N. Rosenstein-Rodan. 1957. *Nuclear Power and Italy's Energy Position*. Washington: National Planning Association
- Love, Joseph L. 1996. *Crafting the Third World. Theorizing Underdevelopment in Rumania and Brazil*. Stanford: Stanford University Press
- Mackinder, Halford. 1919. *Democratic Ideals and Reality. A Study in the Politics of Reconstruction*. London: Constable and Company

- Marx, Karl. (1867) 1977. *Capital. A Critique of Political Economy*, Vol. 1, New York: Vintage Books
- Mazower, Mark. 2008. *Hitler's Empire*. London: Allen Lane
- Meier, Gerald M. and Dudley Seers, eds. 1984. *Pioneers in Development*. New York: Oxford University Press
- Milgate, Murray. 1979. "On the Origin of the Notion of 'Intertemporal Equilibrium'." *Economica* N.S. 46(181): 1-10
- Millikan, Max F. and W. W. Rostow, with the collaboration of P. N. Rosenstein-Rodan and others at the Center for International Studies, MIT. 1957. *A Proposal. Key to an Effective Foreign Policy*. New York: Harper and Brothers
- Morgan, Mary and Malcolm Rutherford, eds. 1998. *From Interwar Pluralism to Postwar Neoclassicism*. Supplemental issue to vol. 30 of *History of Political Economy*. Durham: Duke University Press
- Mumford, Lewis. (1955) 1959. *The Story of Utopias*. Gloucester, Mass.: Peter Smith
- Murphy, Kevin M., Andrei Shleifer and Robert W. Vishny. 1989. "Industrialization and the Big Push." *Journal of Political Economy* 97(5): 1003-1026
- Myrdal, Gunnar. 1956. *An International Economy. Problems and Prospects*. New York: Harper & Brothers
- Myrdal, Gunnar. 1957. *Economic Theory and Under-Developed Regions*. London: Duckworth
- Nurkse, Ragnar. 1952. *Some Aspects of Capital Accumulation in Underdeveloped Countries*. Cairo: National Bank of Egypt
- Nurkse, Ragnar. 1953a. "Some International Aspects of the Problem of Economic Development." *American Economic Review* 42(2): 571-583
- Nurkse, Ragnar. 1953b. *Problems of Capital Formation in Underdeveloped Countries*, Oxford: Basil Blackwell

Nurkse, Ragnar. 1959. "Notes on 'Unbalanced Growth'." *Oxford Economic Papers* N.S. 11(3): 295-297

Nurkse, Ragnar. 1961a. "Further Comments on Professor Rosenstein-Rodan's Paper." In Ellis and Wallich 1961:74-78

Nurkse, Ragnar. 1961b. "Balanced and Unbalanced Growth." In Ragnar Nurkse, *Equilibrium and Growth in the World Economy: Economic Essays by Ragnar Nurkse*, Edited by Gottfried Haberler and Robert M. Stern, Cambridge: Harvard University Press: 241-278

Orrego Vicuña, Francisco, ed. 1975. *Chile: The Balanced View. A Recopilation [sic] of Articles about the Allende Years and After*, Santiago. Chile: The Institute of International Studies of the University of Chile

Perälä, Maiju. 2006. "'Looking at the Other Side of the Coin': Allyn Young and the Early Development Theory." *Journal of the History of Economic Thought* 28(4): 461-488

Pomfret, Richard. 1992. *Diverse Paths of Economic Development*, London: Harvester Wheatsheaf

Ray, Debraj. 2000. "What's New in Development Economics?" *The American Economist* 44(2): 3-16

Rodrik, Dani. 2007. *One Economics, Many Recipes: Globalization, Institutions, and Economic Growth*. Princeton: Princeton University Press

Rosenstein-Rodan, Paul N. 1927. "Grenznutzen." In *Handwörterbuch der Staatswissenschaften*, 1190-1223, edited by Ludwig Elster, Adolf Weber and Friedrich Wieser, Vierter Band, Finanzen-Gut, Jena: Verlag von Gustav Fisher

Rosenstein-Rodan, Paul N. 1929. "Das Zeitmoment in der mathematischen Theorie des Wirtschaftlichen Gleichgewichtes." *Zeitschrift für Nationalökonomie* 1(1): 129-142

Rosenstein-Rodan, Paul N. 1933. "La complementarità. Prima delle tre tappe del progresso della teoria economica pura." *La Riforma Sociale* 44: 257-308

- Rosenstein-Rodan, Paul N. 1934. "The Rôle of Time in Economic Theory." *Economica* N.S. 1(1): 77-97
- Rosenstein-Rodan, Paul N. 1943. "Problems of Industrialisation of Eastern and South-Eastern Europe." *The Economic Journal* 53(210/211): 202-211
- Rosenstein-Rodan, Paul N. 1944. "The International Development of Economically Backward Areas." *International Affairs* 20(2): 157-165
- Rosenstein-Rodan, Paul N. 1954. "La Teoria dello Sviluppo Economico." In *Atti del Convegno di Studi su 'L'Organizzazione Internazionale e lo Sviluppo delle Economie Arretrate'*, Padova: Cedam, 1954: 9-66
- Rosenstein-Rodan, Paul N. 1957. "Notes on the Theory of the 'Big Push'." Italy Project, Center for International Studies
- Rosenstein-Rodan, Paul N. 1961a. "Notes on the Theory of the 'Big Push'." In Ellis and Wallich, 1961: 57-67
- Rosenstein-Rodan, Paul N. 1961b. "International Aid for Underdeveloped Countries." *Review of Economics and Statistics* 43(2): 107-138
- Rosenstein-Rodan, Paul N. 1963. "Reflections on regional development." MIT Center for International Studies
- Rosenstein-Rodan, Paul N., ed. 1964a. *Pricing and Fiscal Policies. A Study in Method*, Cambridge: MIT Press
- Rosenstein-Rodan, Paul N., ed. 1964b. *Capital Formation and Economic Development*, Cambridge: MIT Press
- Rosenstein-Rodan, Paul N. 1964c. "Alternative Numerical Models of the Third Five Year Plan of India." In Paul Rosenstein-Rodan 1964b: 23-32
- Rosenstein-Rodan, Paul N. 1964d. "The Economic and Social Objectives of India's Five Year Plan." In Paul Rosenstein-Rodan 1964a: 11-17
- Rosenstein-Rodan, Paul N. 1964e. "Contribution of Atomic Energy to a Power Programme in India." In Paul Rosenstein-Rodan 1964a: 165-174
- Rosenstein-Rodan, Paul N. 1974a. Why Allende Failed. *Challenge* 17(2): 7-13

Rosenstein-Rodan, Paul N. 1974b. "An Overview of the Chilean Economic Policies—Statement by Professor Paul Rosenstein-Rodan." In Orrego Vicuña 1975: 219-221

Rosenstein-Rodan, Paul, N. 1984. "Natura Facit Saltum: Analysis of the Disequilibrium Growth Process." In Meier and Seers 1984: 207-221

Rostow, Walt W. 1960. *The Stages of Economic Growth. A Non-Communist Manifesto*, Cambridge: Cambridge University Press

Scitovsky, Tibor. 1954. "Two Concepts of External Economies." *Journal of Political Economy* 62(2): 143-151

Souter, Ralph W. 1930. "Equilibrium Economics and Business-Cycle Theory: A Commentary." *Quarterly Journal of Economics* 45(1): 40-93

Streeten, Paul P. 1959. "Unbalanced Growth." *Oxford Economic Papers* N.S. 11(2): 167-90

Taffet, Jeffrey. 2007. *Foreign Aid as Foreign Policy: The Alliance for Progress in Latin America*. New York: Routledge

Thomas, William. 2014. "Decisions and Dynamics: Postwar Theoretical Problems and the MIT Style of Economics." In Weintraub 2014: 295-314

Toner, Phillip. 2009. *Main Currents in Cumulative Causation. The Dynamics of Growth and Development*. Basingstoke: Palgrave Macmillan

Weintraub, E. Roy, ed. 2014. *MIT and the Transformation of American Economics*. Supplemental issue to vol. 46 of *History of Political Economy*. Durham: Duke University Press

Young, Allyn A. 1928. "Increasing Returns and Economic Progress." *Economic Journal* 38(152): 527-542

Young, Allyn A. 1999. *Money and Growth: Selected Papers of Allyn Abbott Young*, edited by Perry G. Mehrling and Roger J. Sandilands, New York: Routledge