All Politics is Local: The Social Housing Experiment of Red Vienna, 1923-1933

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The moderating effects of World War I on wealth and income inequality varied across belligerents. In Austria the state embraced austerity measures to restrain hyperinflation and respect commitments to the League of Nations. To fill the void, the Social Democratic Workers' Party turned to its political stronghold in Vienna to advance its agenda of social spending and progressive taxation. In this paper, we cast attention on social housing, Red Vienna's signature program. Applying an electoral-cycle model, we find that the construction of new buildings increased the party's share of votes in municipal elections. The program mobilized support of young families in search of affordable and quality housing. It also attracted the backing of the middle classes and elites, despite the higher tax burden imposed on them. The physical attributes of the new buildings and related investments, such as in schools, hospitals, and city infrastructure, benefited all Viennese. "[T]he experiment of Vienna trying to transcend [the market economy is] one of the most spectacular cultural triumphs of Western history."

Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time* (Boston, 1971), 298-99.

In Piketty's account, World War I had a moderating effect on wealth and income inequality in Europe. Wartime inflation, progressive taxation and exceptional levies on private wealth, nationalization of key industries and sectors, decolonialization, and the expropriation of foreign assets combined to erode top income shares. But the trajectory of improving equality was not sustained everywhere. By the mid-1920s, measures of inequality in France and the United Kingdom stabilized, although at lower levels than in the Belle Époque. The experience of the Central Powers was different. In Germany inequality remained high in the war years, but then narrowed dramatically until the Nazi period because of hyperinflation and low profits. Macroeconomic conditions in Austria followed the same pattern, the wage share decreasing during the war and rising sharply after. But Austria and Germany differed in important ways. Federal authorities in Austria pursued a policy of austerity to comply with terms of the loan negotiated with the League of Nations and intended to restructure the country's finances. Consequently, municipalities emerged as stewards of the welfare state and purveyors of redistribution, the classic case being that of Red Vienna. Under the leadership of the Austrian Social Democratic Workers' Party (SDAP), the city's progressive tax structure funded an extensive and innovative set of social policies that aligned with local demands for better housing, education, and healthcare. Well received by residents, these measures intensified friction with federal authorities and ideological opponents.¹

¹ Thomas Piketty, *Capital and Ideology* (Cambridge, MA, 2020). Walter Scheidel, *The Great Leveler: Violence and Inequality From the Stone Age to the Twenty First Century* (Princeton, NJ, 2017), is less sanguine than Piketty on the egalitarian effects of World War I. For Germany, see Charlotte Bartels, "Top Incomes in Germany, 1871–2014," *Journal of Economic History*, LXXIX (2019), 669–707. Comparable data are unavailable for the Austria. For evidence on wage shares, see WIFO, "Österreichs Volkseinkommen 1913 bis 1963," Österreichisches Institut für Wirtschaftsforschung (Vienna, 1965); Erik Bengtsson and Daniel Waldenstrom, "Capital Shares and Income Inequality: Evidence from the Long Run," *Journal of Economic History*, LXXVIII (2018), 712-43. With nearly a third of Austria's population, the city's contribution in reducing the country's inequality was not unimportant.

We focus on Vienna's municipal housing (*Gemeindebau*) program which constituted the single largest expenditure of the city's budget. Between 1923 and 1933, the city constructed 335 apartment buildings containing about 60,000 units. In 1933, approximately 200,000 residents lived in social housing or about 11 percent of the Viennese interwar population. Public housing comprised a similar proportion of the city's housing stock. The provision of affordable and quality housing was grounded on a policy of strict rent controls and financed by redistributive taxation. Construction continued into the Great Depression. Ultimately the project was the casualty of internal outbreaks, the 1933 constitutional crisis and the Civil War of 1934, magnified and emboldened by external shocks, the most unsettling being the 1933 election of National Socialists in Germany.²

The literature on the Gemeindebau is extensive. One branch extols the architectural legacy of the buildings.³ Other historians have viewed social housing as part of an ideological agenda to inculcate among workers, in a top-down manner, the values of a socialist *Neue Mensch* as a proletarian alternative to the habitus of bourgeois society.⁴ Our tack is different. Adopting the methods and research strategy of economic history, we describe the political-economy forces behind the origins and the development of the program and evaluate whether the SDAP accrued benefits from the construction boom. Our claim is that increased expenditure on housing and progressive taxation had electoral advantages for the party.

To consider these issues, we construct a novel database of social housing buildings and dwelling units at the district level that we match with municipal and federal election results. The basic conceptual framework we adopt derives from the literature on whether or not politicians reward themselves by pre-electoral spending. We adapt an error correction model (ECM) to estimate the relationship between social housing and votes cast for the SDAP.⁵

³ Helmut Weihsmann, *Das rote Wien. Sozialdemokratische Architektur und Kommunalpolitik 1919-1934* (Vienna 1985). Eve Blau, *The Architecture of Red Vienna, 1919-1934* (Cambridge, MA, 1999).

² There are several contemporary histories of the program. Charles Hardy, *The Housing Program of the City of Vienna* (Washington, 1934) remains an indispensable reference. For an 'official' view, see the city's own history, Stadt Wien, *Das Rote Wien in Zahlen, 1919-1934* (Vienna, 2019).

⁴ Helmut Gruber, *Red Vienna: Experiment in Working Class Culture, 1919-1934* (New York, 1991); Judith Benniston (ed.), "Culture and Politics in Red Vienna," *Austrian Studies*, XIV (2006), 1-348.

⁵ On the electoral business cycle, see Torsten Persson and Guido Tabellini, *The Economic Effects of Constitutions* (Cambridge, MA, 2003). For case studies, see Steven Levitt and James Snyder, "The Impact of Federal Spending on House Election Outcomes," *Journal of Political Economy*, CV (1997), 30-53; Nico Voigtländer and Hans-Joachim Voth, "Highway to Hitler," NBER Working Paper 20150, 2014; Bruno Caprettini,

The challenge facing the social democrats was daunting. Although the program was endorsed by members of the bourgeois elite, intellectuals, and artists, like Sigmund Freud, Alma Mahler, and Robert Musil, and economists of varying persuasions, such as Gustav Stolper and Joseph Schumpeter, the party had to contend with the fierce and often violent hostility of local opposition, which historians have labelled Black Vienna, and the implacable national opposition led by the Christian Socials.⁶ These forces cohered after the 1927 election, about the same time as internal dissension within the SDAP became more vocal and housing construction slowed down. We explore several channels by which the SDAP withstood political pressures. First, we consider the selection process of new residents. The city maintained a point system that favored Viennese residents and prioritized families with children in search of larger and better equipped apartments. The second source of support was among non-residents. Compared to the existing housing stock, the new buildings were in many facets of superior quality. The buildings were designed by well-known architects and several of them featured outstanding art-deco installations. The city also maintained neighboring green spaces, invested in infrastructure, like roads and street lighting, and opened schools, health clinics, and daycare facilities to meet the demand of young families. Middle and higher-income Viennese would have shared in the benefits of improved neighborhoods. They would have welcomed the rewards of social calm, and despite the larger share of taxes they assumed, would have looked upon the SDAP favorably. These factors seem to have had more weight in municipal politics. At the federal level, electoral competition was more intense and the relationship between the Gemeindebau and votes cast for the SDAP was weaker.

The remainder of this paper is organized as follows. First, we describe the origins and basic features of the program. We then situate social spending in an electoral-cycle framework before introducing the datasets assembled to verify the model's claims. The

Lorenzo Casaburi, and Miriam Venturini, "The Electoral Impact of Wealth Redistribution: Evidence From the Italian Land Reform," SSRN Working Paper 3767181, 2021.

⁶ We consider the views of Frieidrich von Hayek and the Austrian School of Economics below. See Charles A. Gulick, *Austria from Habsburg to Hitler, Volume I, Labor's Workshop of Democracy* (Berkeley, 1948), 481-86. On dissension within the SDAP, the classic text is Anson Rabinbach, *The Crisis of Austrian Socialism: From Red Vienna to Civil War, 1927-1934* (Chicago, 1983). On the weakness of the SDAP outside Vienna, see Charlie Jeffery, *Social Democracy in the Austrian Provinces 1918-1934: Beyond Red Vienna* (London, 1995); Jill Lewis, *Fascism and the Working Class in Austria* (New York, 1991). On formal and informal local opposition, see Janek Wasserman, *Black Vienna: The Radical Right in the Red City, 1918–1938* (Ithaca, 2014); *ibid., The Marginal Revolutionaries: How Austrian Economists Fought the War of Ideas* (New Haven, CT, 2019).

regression analysis follows. We conclude with remarks on the demise of the program after the Civil War of 1934 and its revival in the second half of the twentieth century.

BACKGROUND AND TIMELINE

In 1914 Vienna was the fourth largest city in Europe. The city's housing stock was in short supply and poor quality. Indoor plumbing was a luxury as was central heating and artificial lighting. Home ownership was private, the purchase of buildings and mortgages being a popular form of saving. Rents amounted to roughly 20 to 25 percent of occupiers' incomes. Soon after the war broke out, the Austro-Hungarian Empire abandoned the gold standard and a period of rapid inflation ensued. While optimism held on the home front in the early years of the conflict, by 1917 food shortages were ubiquitous and the welfare, especially of women and children, had deteriorated immeasurably. Civil unrest against the authorities was common. In response, the imperial-royal authority imposed national rent controls—the law was the first step in the making of the social housing program—in a series of measures (*Mieterschutzverordnungen*) beginning in January 1917. But this did not quell discord and strikes led by the SDAP broke out across the country calling for peace, demilitarization, and political reform. Figure 1 gives a timeline of the main events of the period.⁷

The treaties marking the end of war were not generous to Austria. Landlocked, the First Republic was severed from its customary markets and industrial hinterland in the old empire. Real gross national product had fallen by one-third between 1913 and 1920. In the inaugural parliament after the adoption of universal suffrage and proportional representation, the SADP was the strongest party and they nominated the head of state. In short order, the government confiscated royal property, adopted a graduated income tax, extended voting rights to women, and introduced the eight-hour working day. In the national assembly election of February 1919, the SDAP campaigned on the promise of reforming labor relations, extending the welfare state, and nationalizing key industries. The

⁷ On the effect of the war on women and children, see Maureen Healy, *Vienna and the Fall of the Habsburg Empire: Total War and Everyday Life in World War I* (New York, 2004). On rent control practices in Europe during the war period, see Leon Bettendorf and Erik Buyst, "Rent Control and Virtual Prices: A Case Study for Interwar Belgium," *Journal of Economic History*, LVII (1997), 654-73. On the Austrian revolution of 1918-1919, the classic text is Otto Bauer, *Der Weg zum Sozialismus* (Berlin, 1919); Lewis, *Fascism and the Working Class*, 50-66.

Social Democrats won the most seats of any party and became the senior member in a grand but unstable coalition that promptly splintered in June 1920 and was replaced by a tighter alliance of Christian Socials and German Nationalists which effectively remained in power into the mid 1930s. Indulging their constituents in the countryside and the financial sector, and emboldened by the views of Ludwig von Mises and the Austrian School of Economics, the new government prioritized capping inflation and controlling debt with the aim of securing international loan guarantees. The Economic and Financial Organisation of the League of Nations designed a four-year financial reconstruction scheme that was adopted by Austria in 1922, an arrangement that translated into reduced national expenditures on social policy. In 1921 federal government threatened to withdraw rent control legislation, but in the face of ongoing hyperinflation the authorities had no alternative but to extend the rent protection law (*Mietengesetz*) in 1922; by this date real rents had fallen to about a quarter of what they had been at the end of the war. Hyperinflation had eroded savings and investment in housing collapsed.⁸

The SDAP fell back to its political stronghold in Vienna to advance its social policy agenda and temper the federal government's austerity measures. There were few precedents in Europe of large-scale social spending organized at the local level. In Vienna, the housing crisis was the most pressing issue. Although the city's population had declined in the immediate post-war years, the proportion of young families had increased, placing added pressure on the existing housing stock. In 1919, after assuming control of the city council, the Social Democrats had relied on the private sector, but even a measure that exempted private builders from municipal taxes had proven ineffective. In a tentative manner, the city then turned to public resources and debt financing and, in 1922, built four new apartment blocks creating 658 housing units.⁹

⁸ On macroeconomic conditions post-war, see WIFO, "Österreichs Volkseinkommen." Annual inflation peaked at nearly 3,000 percent in 1922; by 1925 inflation was in the single digit range. In that year the Schilling replaced the Krone. On the effects of the League's financial package on state capacity, see Barbara Susan Warnock, "The First Bailout – The Financial Reconstruction of Austria 1922-1926," Ph.D. dissertation, Birbeck College, University of London, 2015. Nathan Marcus claims that the state had latitude in spending power, but instead used Austria's international obligations to impose limits on social expenditures. *Austrian Reconstruction and the Collapse of Global Finance, 1921-1931* (Cambridge, MA, 2018). On Austrian economists and the League, see, Richard M. Ebeling, *Political Economy, Public Policy and Monetary Economics: Ludwig von Mises and the Austrian Tradition* (London, 2009).

⁹ Vienna was effectively a city-state, obtaining in 1922 the status of a federal province with considerable regional autonomy over taxation and spending. For a history of federal transfers to Vienna, see Gerhard

The housing boom that began in 1923 entailed a major tax reform designed and managed by the city's chief financial officer, Hugo Breitner, a former banker and sharp critic of the budgetary measures sponsored by the League. The new tax structure was highly progressive. In equal parts, the city drew on federal subsidies, a luxury tax, and a residential construction tax or house duty on existing apartments and homes. There was a clear preference to use tax revenues over debt in financing the program since city the city was committed to a prudent fiscal policy and wanted to demonstrate its ability as fiscal manager. Exceptionally, in 1923 the city issued mortgage bonds to finance construction. Before 1914, the city had relied on flat-rate direct taxation; the new indirect taxes on luxuries, such as spending on automobiles, horse racing, and nightclubs, shifted the tax burden. So did the new progressive housing duties that replaced the older flat tax on rental units. The tax was based on rent paid in 1914. One contemporary captured the net result.

"The half-million cheapest apartments, representing 82 percent of the total number taxed, contributed but 22 percent of the total taxes, whereas the 3,400 most expensive apartments, representing but ½ percent of the whole number, were compelled to furnish 45 percent of the total housing tax levied upon tenants...Vienna landlords of earlier years were practically deprived of all income from their properties."¹⁰ [author translation]

Strikingly, the SDAP plan was a made-in-Vienna solution to the housing crisis. The party's documentation makes little reference to comparable and ongoing programs in Belgium, the Netherlands, France, and the U.K.; in fact, the opposite seems to have occurred. The city attracted international researchers on the wider benefits of municipal housing and progressive taxation, many of whom were New Dealers seeking to address the effects of high unemployment in the U.S.¹¹

Shoehorned between the post-war crisis and the Depression, the mid-1920s saw moderate growth and financial stability. Austrian unemployment was unchanged in 1925

Melinz, "Fürsorgepolitik(en)," in Emmerich Tálos and Wolfgang Neugebauer (eds.), Austrofaschismus: Politik – Ökonomie – Kultur (Vienna, 2012), 238-54.

¹⁰ The citation is from Edward, L. Schaub, "Vienna's Socialistic Housing Experiment," *Social Service Review*, IV (1930), 584. Hugo Breitner, *Seipel-Steuern oder Breitner-Steuern? Die Wahrheit über die Steuerpolitik der Gemeinde* (Vienna, 1927). On Breitner, see Warnock, "The First Bailout," 220-22; Felix Czeike, *Liberale, christlichsoziale und sozialdemokratische Kommunalpolitik (1861-1934) dargestellt am Beispiel der Gemeinde Wien* (Vienna 1962).

¹¹ For international reviews of the program, Schaub, "Vienna's Housing Experiment," 575-86; Ernest L. Harris, "Workingmen's Housing in Vienna," *Monthly Labor Review*, XXXII (1931), 6-16; Robert E. Chaddock, "Housing in Vienna: A Socialistic Experiment," *American Journal of Sociology*, XXVII (1932), 560-68. Robert Danneberg's, *Vienna under Socialist Rule* (London, 1925) was published by the British Labour Party.

and 1926 and actually fell in in 1927 and 1928, averaging in the order of 10 to 15 percent over the period. The trajectory of the city's expenditures (real values) in Figure 2 mirrors the changes in economic outlook. In peak years the housing program comprised about 20 percent of the city's budget. Relative to all expenditures, investments in housing plateaued after 1926. It is likely that the municipality sought to increase outlays on other programs, like schools and hospitals. But investments in housing continued, albeit at a slower pace, through the Depression years and the ensuing financial crisis. By 1931 housing expenditure was about 11 percent of the city's budget. In 1932 the federal authority ended transfers to Vienna and housing construction came to a standstill. Over the entire period, Breitner succeeded in balancing the budget, even gaining the approbation of the League for his financial management.¹²

Figure 3 presents the number of apartment units and buildings constructed over the period. The values correspond to dates of completion. Initially, the number of units and buildings moved in tandem; the city then favored smaller buildings containing few units on vacant land scattered across the city; in the final stage available land was scarce and the city privileged larger buildings with more units. The economies of scale in constructing larger buildings tempered the decline in housing expenditures after 1926. The construction boom was a source of demand for workers and intermediate inputs and final goods, contributing to stabilizing unemployment. The city prided itself on relying on local sources. Stolper asserted that building costs in the public sector were in fact less than those privately constructed because the city acted as a monopsonist. This claim is difficult to judge because private sector construction had in fact vanished.¹³ We discuss below the political and social advantages of dispersing building sites across the city.

¹² For city budgets, see Magistrat der Stadt Wien, "Die Verwaltung der Bundeshauptstadt Wien in der Zeit vom 1. Jänner 1923 bis 31. Dezember 1928 unter den Bürgermeistern Jakob Reumann und Karl Seitz," (Vienna, 1933). Magistrat der Stadt Wien, "Die Verwaltung der Bundeshauptstadt Wien in der Zeit vom 1. Jänner 1929 bis 31. Dezember 1931 unter dem Bürgermeister Karl Seitz," (Vienna, 1949). Hardy, *Housing Program of Vienna*, 89. On the Depression in Austria, see Charles Kindleberger, *The World in Depression 1929-1939* (Berkeley, 1973), 148-49; Eduard März, "Die Grosse Depression in Österreich, 1930-1933," *Wirtschaft und Gesellschaft - WuG*, XVI (1990), 409-37. On Vienna's role in the international financial crisis of the early 1930s, see Marcus, *Austrian Reconstruction*. Federal transfers were cut in response to the financial crisis. Ulrike Weber-Felber, *Wege aus der Krise: Freie Gewerkschaften und Wirtschaftspolitik in der Ersten Republik* (Vienna, 1990).

¹³ Gustav Stolper, "Mieterschutz" Der österreichische Volkswirt, XVII (1925), 453. Maren Seliger, "Sozialdemokratie und Kommunalpolitik in Wien – Zu einigen Aspekten sozialdemokratischer Politik in der Vorund Zwischenkriegszeit," Jugend und Volk, Wiener Schriften, XLVIV (1980), 139.

The new buildings were a significant improvement over the existing housing stock. Despite the fact that more than 80 percent of rentals remained in the private sector, social housing appears to have set the standard in the market. Units were more spacious and provided running water and natural and artificial lighting. Real rents after controlling for size and number of family members were initially lower in the public sector (Figure 4 panel a), reflecting partly the fact that the average family in the Gemeindebau earned less than in private housing (panel b). Still trajectories in the two sectors were similar and rents were in fact comparable in 1928. Rents diverged after the Depression because the municipality began subsidizing the public sector to shore up demand in the weak economy.¹⁴

Rental payments underestimate the social value of the new housing. Zoning restrictions on the size of the buildings provided residents and non-residents access to green spaces. All Viennese shared in the benefits of the new schools, libraries, sports and daycare facilities, hospitals, and expanded road and public transport networks that went hand in hand with the new housing. Blau accurately observed the housing program was in effect part of a larger urban project. Illustrations 1 and 2 give examples of Gemeindebau of average size with kindergartens and providing community services built in middle-class districts before 1926. The program's flagship was Karl-Marx-Hof in district 19. Designed by Karl Ehn (a student of Otto Wagner, the prominent member of the Vienna's Secession Movement), construction began in 1927 and was completed by 1930. The building housed 1268 units with nearly 50 adjacent shops, provided ample public space, and was decorated in the interior and exterior by artwork. It included a central laundry, two kindergartens, a drop-in center for new mothers, youth facilities, library, a sick bay and outpatient clinic, pharmacy, dental clinic, and a post office. The building contributed to the 'gentrification' of a district on the city's periphery that had been considered to be rural.¹⁵

SOCIAL HOUSING AND ELECTION CYCLES: THE SDAP'S QUANDARY

¹⁴ On the quality of the housing stock, see Hardy, *Housing Program of Vienna*. According to Blau (*Architecture of Red Vienna*), unadjusted rents were higher in social housing. Rents across the board increased after 1929 because of a change in legislation that allowed owners (private and public) to recover a greater share of their costs. For a comparison of public and private, see Domink Loibner, "Crisis-resilience of Community Housing in First Republic 'Red Vienna'," B.A. thesis, Vienna University of Economics and Business, 2020.

¹⁵ Eve Blau, "Revisiting Red Vienna as an Urban Project," 2014. https://www.austria.org/revisiting-red-vienna. According to Mary MacDonald Proudfoot, Red Vienna was the forerunner in the provision of 'cradle to grave' benefits. *The Republic of Austria, 1918-1934* (London, 1946), 72.

Did the program follow a coherent logic? Or was it a matter simply of circumstance and improvisation? In this section, we introduce a political-economy framework to evaluate the nature, design, and outcomes of the SDAP's social policy. Our claim is that social housing was a key component in the SDAP's plan of maintaining and deepening the electoral support of young families and the middle class, without stirring the antagonism of the Viennese elite.¹⁶

Conceptual framework

To fix ideas, consider the electoral-cycle model of Persson and Tabellini. They begin with the empirical regularity that plurality electoral systems and proportional representation (PR) systems have different spending patterns. The intuition is that mapping from votes to seats in plurality systems is tighter because individual politicians are held accountable for their behavior where they are directly elected. In these systems, politicians are less prone to corruption and over-spending, although where elections are competitive candidates tend to become more responsive to the demands of pivotal groups of voters. In these circumstances wedge or short-term issues dominate. Close elections increase the propensity to target benefits to narrow constituencies. After the post-election honeymoon period, governments are predisposed to retract on spending and introduce austerity measures.¹⁷

The incentive structure under PR differs. Parties present a list of candidates in geographical districts that depending on size can encompass voters from different backgrounds and with different needs. There are no swing ridings. Nor do campaigns pivot on wedge issues. Instead, parties often make long-term promises. For instance, parties tend to support broad and universalistic programs, such as welfare-state spending and investments in public goods, to reach as many voters as possible. The claim that first past the post systems tend to produce stable two-party systems and that PR electoral systems promote factionalism and the emergence of extreme parties is not borne out by the evidence. Voters are better informed about issues under PR and are more committed.

¹⁶ Hendrik Wagenaar and Florian Wenninger characterized the SDAP strategy as "design-in-practice." "Deliberative Policy Analysis, Interconnectedness and Institutional Design: Lessons from Red Vienna," *Policy Studies*, XLI (2020), 411-37. Seliger ("Sozialdemokratie und Kommunalpolitik") claimed the approach was improvised and ad hoc because of the extreme circumstances in the interwar period.

¹⁷ Torsten Persson and Guido Tabellini, "Constitutions and Economic Policy," *Journal of Economic Perspectives*, XVIII (2004), 75-98.

Outright majorities are rare and to maintain the support of diverse coalition partners, governing parties are less disposed to cut taxes and spending unlike governments elected by plurality systems. Persson and Tabellini find that these empirical regularities are stronger in young democracies since they have an incentive to spend broadly to mobilize electoral support. They conclude that these effects are "quantitatively important."¹⁸

The SDAP's action plan: Theory and practice

The SDAP had good reason to adopt social spending in line with the electoral-cycle model. In fin-de-siècle Vienna, the right to vote was restricted to males over 24 years of age in an electoral system that granted middle and upper-class groups a disproportionate share of political power. The mayor, Karl Lueger (1897-1910) of the Christian Socials, had the support of property owners, lower and middle range government officials, artisans, merchants, shopkeepers and a small group of intensely anti-Semitic Catholic clerics. In the footsteps of the federal authority, the municipal council introduced PR in early 1919. Backed by the trade unions, anti-monarchists, and professional and intellectual elites, the SDAP won handily the first post-war city-wide election. The victory was not insubstantial. The Austrian Social Democrats were the first socialist party, outside of the Soviet Union, to preside over a city with more than a million inhabitants. Ultimately, the SDAP believed that success in Vienna would be a springboard to regain control of federal politics.¹⁹

Otto Bauer, the party's leading theoretician, remains a source of controversy. To its followers, Austromarxism heralded a commitment to constitutional and democratic republicanism, a 'Western' alternative to the doctrinaire Soviet experiment. Rejecting interclass conflict, Bauer promoted the "balance of class forces" as a means to expand support for the left beyond its traditional base, a stage he referred to as "anticipatory socialism." To prepare Austria for the post-war he advocated the socialization of key sectors, including housing. But Bauer also practiced politics in the spirit of the electoral-business

¹⁸ On the origins of PR in Europe see, Thomas Cusack, Torben Iversen, and David Soskice, "Coevolution of Capitalism, and Political Representation," *American Political Science Review*, CIV (2010), 393-403. The claim that PR encouraged political extremism during the interwar period is rejected by Alan de Bromhead, Barry Eichengreen, and Kevin O'Rourke, "Political Extremism in the 1920s and 1930s: Do German Lessons Generalize," *Journal of Economic History*, LXXIII (2013), 371-406.

¹⁹ On pre-war municipal politics, see John W. Boyer, *Political Radicalism in Late Imperial Vienna: Origins of the Christian Social Movement, 1848–1897* (Chicago, 1981). On post-war politics, see Maren Seliger and Karl Ucakar, *Wahlrecht und Wählerverhalten in Wien 1848-1932* (Vienna, 1984).

cycle model. Considering the federal vote, he wrote in 1924 that "if we succeed in diverting from the bourgeois parties only 320,000 voters [there were about 4 million eligible voters at the time] and gaining them for our party, then we shall obtain the absolute majority in parliament; then we can govern Austria."

To his critics, Bauer's attachment to parliamentary democracy was a sign of weakness and passivity in the face of a belligerent opposition movement. Bauer's authority was openly questioned by the membership after the SDAP's weak response to violence perpetrated by the right-wing militia in 1927, an episode which presaged the SDAP's shambolic organization during the Civil War of 1934. The membership also raised issue with the SDAP's lack of preparation and uncertain roadmap for regaining control of federal politics. Berman observed that Bauer's inaction was typical of interwar politicians on the left the who believed idealistically that the forces of history would eventually turn in their favor. Hobsbawm was less forgiving: "Like Hamlet [Bauer] knew what ought to be done, but also like Hamlet, he could not bring himself to do it."²⁰

These debates seem to not to have much direct effect on SDAP's policy at the municipal level. To be sure, lofty ambitions guided social policy. Party members aspired to make Vienna a 'model city'—a citadel on the Danube—the counterpoint to the authority of the ruling bourgeois parties at the national level. A *Neue Mensch* would emerge formed by the city's visual aesthetics and investments in housing, schooling, and leisure activities. While this heady goal would remain the SDAP's mission statement, the game plan was decidedly pragmatic. Robert Danneberg, president of the Vienna Provincial Assembly, the party's acknowledged expert on tenancy law, and a prime mover behind the city's housing policy was succinct: "Capitalism cannot be abolished from the Town Hall." This does not imply, however, that the housing strategy was improvised. Danneberg recognized that the

²⁰ Bauer cited in Gulick, Austria from Habsburg to Hitler, 437-38. Bauer, Der Weg 22-24. For an evaluation of Bauer, Austromarxism, and conflict in the party after 1927, see Anson Rabinbach, The Crisis of Austrian Socialism: From Red Vienna to Civil War, 1927-1934 (Chicago, 1983), 7-58. The quotation is from page 27. Ibid., (ed.), The Austrian Socialist Experiment: Social Democracy and Austromarxism, 1918-1934 (Boulder, 1985). Sheri Berman, The Primacy of Politics: Social Democracy and the Making of Europe's Twentieth Century (New York, 2006). Eric Hobsbawm, "Introduction," in Ilona Duczynska, Workers in Arms: The Austrian Schutzbund and the Civil War of 1934 (New York 1978), 25; cited in Rabinbach, Crisis of Austrian Socialism, 91. Hobsbawm spent his childhood years in Vienna.

long-term success of the program depended on holding onto control of the city council and he was determined using social policy as a wedge to shore up support for the SDAP.²¹

The trouble facing the SDAP was that garnering votes for its social spending agenda was not straightforward. Consider the electoral map of Vienna. The city was divided into 21 districts or *Bezirke* (see Figure 5), many of which were heterogeneous in their composition. Business and professional elites concentrated in districts 1, 4, 8, and 9; workers in 5, 10-12, 14-17, 20, and 21; and the middle classes in the remaining districts, 2, 3, 6, 7, 13, 18, and 19. At the municipal level each district constituted its own electoral district. At the federal level the city was divided into seven wards that comprised overlapping income and social groups. The upshot was that the party had to find support among the middle classes and the business and professional elites in the city core to secure a clear majority across districts in municipal elections; and they needed a foothold in these districts to have any opportunity of challenging the Christian Social's hold of the federal government.²²

The city's shifting occupational structure from industry to services posed a different type of dilemma for the SDAP. The party's membership had become less dependent on trade unions whose numbers in Austria had dropped from a high of nearly 1 million in 1921 to 700,000 on the eve of the Depression. The changing demographic structure of Vienna further compounded the SDAP's quandary. The inflow in the number of young families, many of whom were from rural Austria and with no obvious allegiance to socialist politics, forced the party to reposition itself.²³

Compounding the obstacles of growing the party's base, the SDAP met deep-seated opposition from a variety of individuals and groups that historians collectively refer to as Black Vienna. Despite their different orientations, political and ideological opponents were

²¹ Cited in Edward Timms, "School for Socialism: Kerl Seitz and the Cultural Politics of Vienna," Austrian Studies, XIV (2006) 44; Lewis, Fascism and the Working Class, 79. Robert Danneberg, Kampf gegen die Wohnungsnot! Ein Vorschlag zur Lösung bei Aufrechterhaltung d. Mieterschutzes (Vienna, 1921); ibid., Die sozialdemokratische Gemeindeverwaltung in Wien (Vienna, 1926).

²² Some lower level municipal offices, like school boards, had adopted plurality voting. The seven federal wards were: 1 (districts 1, 3 and 4); 2 (6, 7, 8); 3 (9, 18, 19); 4 (2, 20, 21); 5 (5, 10, 11); 6 (12, 13, 15); and 7 (14, 16, 17). On the distribution of wards, see Peter Berger, "Elections and Parties in Austria," *Journal of Politics*, XII (1950), 511-29.

²³ On the rise of services, see Stefan Kalnoky, "Ringstraße des Proletariats? Zum Wandel der Sozialstruktur der BewohnerInnen fünf ausgewählter Gemeindebauten im Kontext der Wiener Stadtentwicklung des 20. Jahrhunderts," M.A. thesis, Universität Wien, 2010. For competing views on the SDAP and trade unions, see Lewis, *Fascism and the Working Class,* and Gulick, *Austria from Habsburg to Hitler*. On Vienna's changing demographic structure, see Stadt Wien, *Das Rote Wien*.

united in their goal to roll back the SDAP's social agenda. The political arm of the opposition, the Christian Socials, drew support within and outside Vienna, from anti-communists, German Nationalists, monarchists, and the church. According to Lewis, the center-right coalition even earned trade union support in Graz, the second largest city in the country. Among intellectuals, the opposition centered on the conservative social theorist and prolific publicist, Othmar Spann, who later joined the Austrian Nazi Party. His associates held key posts at the University of Vienna and other institutions. In concert, members of the Austrian School of Economics intervened in public debate to challenge the merit of the SDAP's redistributive polices. According to Gulick, the historian of the SDAP, Hayek accepted the necessity of rent control because private-sector rents would be insufficient to cover investments costs, but he also warned that the absence of a mortgage market had reduced the country's capital stock and harmed future economic growth. He went on to argue that the lack of private investment impeded the adoption of new technologies in construction and slowed the formation in human capital. While liberal economists like Stolper rebutted many of these claims, the Austrian School collaborated with Black Vienna in casting a dark shadow on the SDAP's political future.²⁴

In the face of mounting opposition and declining trade union membership the SDAP was compelled to reinforce and renew its base of support. To begin, the SDAP turned to young families, an appeal that was a prominent feature of election campaigns. The 1927 elections posters reproduced in illustrations 3 and 4 showcase the party's platform. Families would have been particularly attracted to the schools, daycares, and clinics established by the SDAP. Ward presents evidence of a significant improvement in the height and weight of new babies in the mid-1920s coinciding with the SDAP's programs targeting new mothers.²⁵

 ²⁴ Wasserman, *Black Vienna*. Lewis, *Fascism and the Working Class*. Freidrich von Hayek, *Das Mieterschutzproblem* (Vienna, 1929). Gulick, *Austria from Habsburg to Hitler*, 485. Gustav Stolper responded in
 "Mieterschutz III," *Der Oesterreichische Volkswirt*, XVII (1925), 509-11. Stolper reasoned that the effect on capital accumulation was small since the outlays for housing were financed mainly by tax revenues and not debt. The argument is summarized in Gulick, *Austria from Habsburg to Hitler*, 482, 486. On Hayek and the Austrian School, Wasserman, *Marginal Revolutionaries*; Felix Butschek, "Eine Wurzel der Sozialpartnerschaft. Die Konjunkturforschung zwischen den Kriegen," *WIFO Monatsberichte*, LXXXV, 85 (2012), 451-59.
 ²⁵ On the social-democratic ideal of family housing, see Reinhard Sieder, "Zur Alltäglichen Praxis der Wiener Arbeiterschaft im ersten Drittel des 20. Jahrhunderts," Ph.D. thesis, Universität Wien, 1988. Indirect evidence on the benefits of the city's social programs is provided by W. Peter Ward, "Birth Weight and Standards of Living in Vienna, 1865-1930," *Journal of Interdisciplinary History*, XVIIII (1988), 203-29. From 1922 on, Ward concluded, "Viennese women enjoyed higher standards of nutrition and well-being than their mothers, grandmothers, or great grandmothers had ever known." *Ibid., Birth Weight and Economic Growth: Women's Living Standard's in the Industrializing West* (Chicago, 1993). For a personal account on improvements in

The party prioritized young families in the allocation of new flats. Conceived by Danneberg, the selection of tenants was handled by the Housing Bureau (*Wohnungsamt*) that adopted in 1922 a point system weighted in favor of young Viennese families. SDAP and trade union membership earned no points. In this regard the occupations of Karl-Marx-Hof residents in 1932 was informative. Based on information contained in city directories, we found that the share of service and white-collar employees comprised 35 percent of the building's tenants, approximately the same as those who identified themselves as workers. Many among this group were unionized, like those in the transport sector.²⁶

Opposition parties contended that the selection process was put aside in favor of rewarding party members. To be sure, the likelihood of selection bias of new residents, say because of a family connection to the party, cannot be ruled out. That said, the general sentiment among party members was that party affiliation or ideological attachment was not considered a high priority in housing allocation. In his recollections of the period, one member wrote:

At a meeting of the *Schutzbund* [the SDAP militia] I attended I overheard the district leader being asked why our comrades were always forgotten when housing is allocated. I recall his response: "We must ensure that those people who are not yet members of the party get flats" And that was a general position at the time. We comrades always went away empty handed! [author translation]

We confirm this view in the econometric section below.²⁷

The SDAP's housing policies found an important source of support among the larger Viennese public. Bauer was explicit on the need to reach out to the middle-classes of shopkeepers, merchants, and tradesmen, if only to weaken the loose coalition of the opposition. These groups were vulnerable to the financial dislocation caused by rapid inflation. Mainly renters, they benefitted from the social housing program because it was founded on the party's commitment to rent control legislation. "To the middle classes,

material life in Vienna, see Reinhard Seider, "Housing Policy, Social Welfare, and Family Life in Red Vienna, 1919-34," *Oral History*, XIII (1985), 35-48.

²⁶ Information on residents from Lehmann's address books, *Wiener Adreßbuch, Lehmanns Wohnungsanzeiger*, LXXIII, part IV (Vienna, 1932). These figures align with Kalnoky, "Ringstraße des Proletariats." He found the units largely occupied by young families, a large proportion of whom belonged to the better-off working class (skilled workers and craftsmen) and the middle class (white-collar workers and civil servants). In contrast, the share of blue-collar and self-employed workers was low.

²⁷ On opposition claims, Hardy, *Housing Program of Vienna*, 95; Gulick, *Austria from Habsburg to Hitler*, 488; Lewis, *Fascism and the Working Class*, 8. The citation is from Manfred Scharinger, "Gespräch mit den Genossen Alois, Anton und Pepperl," in Eric Wegner (ed.), *Österreichischer Trotzkismus*. 2 Bde. Von den Anfängen bis zum Ende des Zweiten Weltkriegs. ARKA, Marxismus, XXIII (Vienna, 2012).

impoverished by inflation it [tenants protection] has afforded one of the few alleviations of their unfortunate situation." The party contributed financially to the tenants' union (*Mietervereinigung*) which in 1928 comprised 220,000 households, about a third of all those in Vienna. The party was not discreet about its electoral motives. At its 1925 congress, a delegate submitted: "We consider the [city's] tenants' association as a means of bringing people into the party organization, and we can register big success in this respect."²⁸

The positive externalities of social housing would certainly have appealed to middleclass voters. Because rents were fixed at a low level, tenants in public and private housing had the opportunity of spending a portion of family budgets on non-essential goods, a source of demand that shopkeepers came to depend on during the Depression. Figure 4 panel c shows the rising shares of non-food and non-rent consumption in public and private sectors. Low rents meant reduced pressure on wages, an outcome that small businesses would have welcomed. Tradesman, too, would have benefited from the city's construction policy of buying local inputs and employing local labor. To signal its commitment to these groups, the party actively promoted the Social Democratic Association of Small Businessmen and Handicraftsmen (*Verein sozialdemokratischer Gewerbetreibender und Kaufleute*). These groups would have been shielded from the city's progressive tax policies, especially the housing tax.²⁹

Across the board, residents would have welcomed and endorsed the harmony the SDAP established in Vienna, even if they did not always share the left's ambitious goals. A petition signed by a group of 40 leading intellectuals and artists, including Alfred Adler, Sigmund Freud, Alma Mahler, and Robert Musil, backing the SDAP on the eve of the 1927 municipal election campaign was telling. In their eye, the tax burden imposed on the wealthy Viennese was justified by the party's "great social and cultural achievements...that provides physical care for the needy, and educate and develop the youth according to the best principles. These measures soften the corners of material life" [author translation]. As for the wider economic effects of social spending, even Hayek conceded that the housing

 ²⁸ Bauer cited in Gulick, *Austria from Habsburg to Hitler*, 467. Assuming each flat represented a household, the city comprised 497,000 households in 1910 and 613,000 in 1934. Renate Banik-Schweitzer, *Zur sozialräumlichen Gliederung Wiens*, *1869-1934* (Vienna, 1982). Report of the 1925 SDAP congress in *Verhandlungen des Parteitages der Oesterriechischen Sozialdemokratie* (Vienna, 1925), 198.
 ²⁹ The classic study on household expenditures is Benedikt Kautsky, "Die Haushaltstatistik der Wiener Arbeiterkammer, 1925-1934," *International Review of Social History*, II (1937), 18.

boom was integral to the economic stability that held from the end of inflation into the early 1930s.³⁰

Did the dual objectives of attracting the middle classes and young families translate into more votes? And did success at the municipal level spill over to federal politics? We would anticipate that the electoral-cycle model would be weaker at the national level, because electoral issues were different at the federal level-the federal authority was not directly responsible for social housing—and because the SDAP's main opposition was in fact the ruling party. Figure 6 presents municipal and federal election results. The municipal electoral share improved slightly, while the increase at the federal level was greater because of an initial lower level in 1920. The growth in votes cast for the SDAP by women was faster than that for all voters. For municipal and federal levels, support topped out in 1927, coinciding with the 1926 peak in housing investment. Does this imply that the electoral-cycle model had run its course? An affirmative answer would give some comfort to the claim that the SDAP was weakened by internal conflict and the significant opposition of Black Vienna. In this view, the housing program failed to meet its objectives, perhaps because of a flawed design, execution, or for other reasons, and as a result the SDAP began to withdraw support for the program before it was officially terminated during the Civil War of 1934. A problem with this line of reasoning is the level of aggregation. At the district level, the SDAP blueprint of leveraging housing construction to target families and the middle class may still have had electoral benefits. The policy was sound and the implementation appropriate. If this was the case, then the demise of the social housing program can be attributed to the conjunction of the internal crises in 1933-1934 and external events in Europe. We examine these alternative views below.³¹

DATA SOURCES ON HOUSING AND VOTING: A PRELIMINARY VIEW OF THE SDAP'S STRATEGY

For Vienna's twenty-one districts during the period, we have collected information on the location of each building, the start and end dates of construction, the number of apartment units and shops per building, the name of the architect, and whether or not the

³⁰ For the original petition, see Alfred Adler et al., "Eine Kundgebung des geistigen Wien: Ein Zeugnis für die große soziale und kulturelle Leistung der Wiener Gemeinde," Arbeiter Zeitung, Zentralorgan der Sozialdemokratie Deutschösterreichs, XL, no. 108, 20 April 1927, 1. Hayek, Das Mieterschutzproblem.
³¹ Votes cast by women are available for all federal elections in the period, and for municipal elections in 1927 and 1932.

building housed pieces of art.³² For some buildings, we know the names and occupations of residents and whether they had a telephone. We also have geocoded data on city railway stations and network by district as of 1912.³³ Since the network predated the construction boom, we use this information to treat problems of endogeneity in the causal relationship between the Gemeindebau and SDAP electoral support. The appendix provides further details on sources.

The censuses provide evidence at the district level on population and age structure, mortality rates, and the shares of workers and servants in the workforce.³⁴ We have information as well on SDAP membership at the same level. We merge this information with municipal (1919, 1923, 1927, and 1932) and federal election results (1919, 1920, 1923, 1927, and 1930). Table 1 presents information (means and standard deviation) of the key variables. There was sizeable dispersion in vote shares and social and economic variables across districts, a variation we exploit in our regression analysis. We use the share of servants in the workforce as a proxy for wealth per district and the percentage of children less than fourteen years of age to approximate the number of young families. The former clustered in the city centre, zones 1, 4, 8, and 9; the latter in the outer districts 10 through 21. Jews, who constituted the largest ethnic minority, about 10 percent of the city's population, were dispersed in rich (1, 8, and 9), middle class (2, 6, and 7), and working class (20) districts. The SDAP vote share was highest in working-class district 10; lowest in zone 1, the city core.

Consider next the spatial distribution of the Gemeindebau. Did the SDAP meet its objective of allocating buildings across districts? The dispersion of buildings across districts in Figure 7 suggest that residences abutted places of work. In fact, returning to the family

³³ R. Ferge, Ein Beitrag zur Lösung des Wiener Verkehrsproblems. Umlegung der Vollbahn-Verkehrslinien zum Zwecke der Errichtung eines Hauptbahnhofes und der Erweiterung und besseren Nutzbarmachung der Stadtbahn für den Personen- und Güterverkehr' (Vienna, 1912); Harald Helml, "Stadtbahn und U-Bahn," Wiener Stadt- und Verbindungsbahn, Wiener Ortsverkehrs-Karte, Oktober 1926 (Vienna, 1926).

³⁴ We interpolate for missing years. Banik-Schwitzer, *Zur sozialräumlichen Gliederung*; Seliger and Ucakar, *Wahlrecht und Wählerverhalten*. For SDAP membership, we combined information from the *Jahrbuch der Österreichischen Arbeiterbewegung* and from the party's annual congress, both published by the Verlag der Wiener Volksbuchhandlung (Vienna, 1917-1932). Election results from Seliger and Ucakar, *Wahlrecht und Wählerverhalten*.

³² Housing information from Wiener Wohnen (city of Vienna's office of social housing) https://www.wienerwohnen.at/wiener-gemeindebau/gemeindebaubeschreibungen.html. We adjust location of housing for changes to district borders after Anschluss. Our source is "Verordnungsblatt für den Amtsbereich des Bürgermeisters von Wien," 15 October 1938, 9 Stück', Staatsdruckerei (Vienna, 1938), 17-20. Lehmann's address books, Wiener Adreßbuch, Lehmanns Wohnungsanzeiger (Vienna, various years).

budgets we have previously referred to, tenants in social housing spent a smaller share of family income on transport than tenants in the private sector (Figure 4 panel d). That said, all Viennese, regardless of wealth and occupation, would have been aware of the positive externalities of the new buildings. Only district 12 at the exterior boundary of the city had two of the ten largest buildings listed in Table 2. Often decorated with art deco fixtures, these buildings granted neighboring residents access to green spaces and commercial establishments. They would have been hard to miss, even by residents in the wealthier districts. It would be difficult to dispute that social housing did not add value to the city's quality of life.³⁵

For the 1927 municipal election, Figure 8 presents preliminary confirmation of the relationship between pre-election spending and vote shares. On the vertical axis we report the share of SDAP vote in 1927 by district. On the horizontal axis we report by district the number of housing units built in the runup to the election in 1925 and 1926 divided by the number of units built after the vote in 1928 and 1929. A value greater than 100 indicates a pre-election housing boom and a post-election cutback. Only four districts had a ratio to the left of the line. Construction prior to 1927 translated into a higher vote share in that year's election.

AN ECONOMETRIC STUDY OF THE DETERMINANTS OF THE SDAP VOTE

In this section we report results of regression analysis of the determinants of the vote share of the SDAP in municipal and federal elections from 1923 until 1932. The explanatory variable of interest is the stock of completed building units per 1,000 inhabitants in each city district. Our framework exploits variation in the social, demographic and economic characteristics of Vienna's twenty-one districts in the period. We adopt an error correction model (ECM) in a dynamic specification with time-series and cross-section fixed-effects. We leave a formal treatment of the regression model to the appendix.

³⁵ Walking was a treasured activity of the Viennese bourgeoisie. It would have been difficult for them to miss the new buildings, schools, parks, and related infrastructure improvements. Take the example of Freud. He lived in Berggasse 19 in district 9. The nearest Gemeindebau was located three blocks to the northeast in Rögergasse 6, next to the Danube Canal subway station and adjacent to the oldest preserved Jewish cemetery in Vienna. Freud would have crossed these landmarks on his daily excursions described by Peter Gay, *Freud: A Life for Our Time* (London 1988).

In the baseline results in Table 3, the dependent variable is the change in the share of SDAP votes in municipal elections at the district level. The explanatory variables consist of flats per 1,000 habitants in each district; percentage share of servants in the workforce; share of the population under 14 years of age; share of the Jewish population; and an interaction term of servants and flats. The latter is included to capture the likelihood that the dynamic between social housing and votes was different in wealthier districts. Variables are lagged (to the previous election year) to address the concern of endogeneity. The coefficients of the variables can be interpreted as the long-run effects. First differences of the variables will pick up short-run dynamics and are not reported. Similarly, we do not report the time and district fixed effects, although we return to the year effects below. The regression includes the lagged left-hand side variable to check for convergence. We report robust standard errors.³⁶

The positive and significant coefficient on housing in specifications 2-5 confirms the main claim of the electoral-cycle model. As anticipated, support for the SDAP turns negative in wealthier districts, and positive in districts with a larger share of young families. The presence of a large share of Jews in a district has a negative effect on the SDAP share. The Jewish population, scattered over several districts was heterogeneous with regard to religiosity and income, and others may not have voted because they were newly arrived in Vienna. The negative sign may represent the outcome of these offsetting forces. An alternative composite explanation is that Jews voted for their own political party, the Juedischnationale Partei, while their presence provoked an anti-semitic and anti-immigrant backlash and increased support for extreme parities, like the German Nationalists. The positive interaction between servants and flats conveys that wealthier groups voted for the SDAP because they recognized and appreciated the benefits social housing brought to their neighborhoods. To be clear, the regression format does not imply a mono causal interpretation of SDAP support. Our interpretation is that taking into account social and economic factors, and differences across districts and years, social housing added to the SDAP vote share. More precisely, the average effect on votes cast (the negative coefficient on flats divided by the coefficient on the lagged dependent variable) is in the order of 0.2. This implies the addition of 500 flats increased the vote share by slightly more than one

³⁶ Our baseline results are stable using non-robust standard errors.

percentage point per district. Alternatively, the addition of 5,000 flats per year (approximately the average annual increase) translated into 10,000 more votes. Over 10 years, the lifespan of the program, this would have amounted to 100,000 votes.³⁷

Other unreported specifications confirm the baseline results. Using flats in buildings with artwork instead of all flats as an explanatory variable yields a larger effect on votes. As we surmised, the quality of social housing carried a premium at the ballot box. The results are robust to the exclusion of single districts. The results carry through as well if national vote share is substituted for municipal shares, or if the two are combined in one regression. We considered as well whether or not support at the federal level spilled over onto municipal elections. Adapting our baseline, the federal SDAP election share coefficient is positive and significant at the 10% level. It appears that there was a modest effect of federal elections on municipal results. In a specification in which we replace as a dependent variable the vote share of the Christian Socials for that of the SDAP, the only significant (and negative) variable is the share of population under 14.³⁸

Table 3 addresses several criticisms of SDAP policy. Recall that opponents asserted that the selection of social housing residents favored party members. We checked whether or not the addition of flats affected SDAP party membership—and vice versa. We find no such effects. In fact, the share of servants is positively correlated with membership. The bourgeois residents of wealthier districts, and those with more inequality, would appear to have been more prone to join the SDAP than in other parts of the city. It may be the case that migrants to Vienna, and those changing address within the city, were self-selected based on a predisposed preference to voting SDAP. The share of the population below the age of 14 controls for this, as do the district control variables, since it is reasonable to assume that the immigration was stronger in districts where there was more land to build on. We have also added the lag of population and its first difference in our baseline regression. Neither proves to be significant.

³⁷ Calculations based on the average number of flats (23) per 1,000 habitants and average district size in 1932 (89,000 inhabitants). We have run the regressions in Table 2 taking first differences of the log of the variables in levels. As expected, this specification performs poorly since our framework specifies a relationship between the percentage of SDAP votes and the percentage of young families, servants, and other variables. We gain little in estimating the log of the shares.

³⁸ In the specification with federal elections as an explanatory variable we use the closest federal election to municipal vote. For instance, we match the federal vote of November 1930 with the municipal vote of 1932. We omit October 1923 results which were held on the same day as the municipal election.

A strand in the literature claims that 1926 was an inflection point. Before the Depression and the events of 1933 and 1934, the effectiveness of the electoral-cycle model had diminished because the SDAP was destabilized by internal debate and confronted well organized political and ideological opposition. The inclusion of year fixed effects questions this view. In our baseline specification with 1923 as the reference year, the dummies for 1927 and 1932 are both significant and positive, the former at the 1 percent and the latter at the 10 percent level. Our interpretation is that 1926 was indeed the peak of the housing boom, but despite poor economic circumstances in 1932, the SADP strategy of leveraging social spending remained effective. Ever diligent, Danneberg studied the relationship between housing and electoral results—and arrived at a similar conclusion. He acknowledged that 1926 was a ceiling, but despite the strategy's diminishing returns he insisted there remained untapped support among women and young voters. The city's engagement in building hospitals, schools, and other projects would have offset the decline in housing investment. Danneberg went on to observe that a campaign promoting the party's social spending could effectively attract white-collar voters from the Christian Socials and the fledgling Austrian Nazi Party.³⁹

Table 4 presents results for federal elections. The signs and significance of the coefficients are the same as before but, as anticipated, the effect of the housing boom on federal votes was weaker than for city elections, approximately by a half (0.1 vs 0.2). Over the lifespan of the program this translated into 50,000 votes. Everything held constant, the program needed approximately 50 years to achieve Bauer's political goal of obtaining 320,000 votes at the national level. It may well be that the SDAP was conservative in its expenditures. That said, the figure is an upper bound, since other types of social spending would have lowered the number of years required to win a majority of votes.

It remains possible that our estimates are biased, among other reasons, because of our partial treatment of endogeneity. To correct for this, Table 5 presents results of a 2SLS estimation for municipal elections. We use the number of rail stations per 1,000 inhabitants by district to instrument for the number of social housing units per 1,000 inhabitants. The city rail network was designed before the turn of the twentieth century and was completed by 1914. Its construction followed geographic and military requirements and preceded the

³⁹ Robert Danneberg, *Die Wiener Wahlen 1930 und 1932: Statistische Betrachtungen* (Vienna, 1932).

adoption of the public housing program. While the coefficient for the first election in 1923 is insignificant, the positive and significant coefficients for the 1927 and 1932 elections confirm the electoral cycle hypothesis; the coefficients in fact increase in size indicating that the baseline results were an underestimate of the effect of the Gemeindebau on the share of the SDAP. The effect is actually larger using flats in buildings with artwork as the explanatory 2SLS variable. The share of servants in the workforce has a negative and significant coefficient as in Table 3.

CONCLUDING REMARKS: THE FALL AND RISE OF SOCIAL HOUSING IN VIENNA

In defiance of the federal authority's austerity measures, the SDAP broke new ground in adopting an innovative welfare program and enacting progressive taxation at the local level. Social housing was a major component of the SDAP agenda. Established in response to the private sector's failure in correcting Vienna's seemingly intractable housing crisis, the program met stiff opposition, political and ideological. The SDAP resisted these countervailing forces head on. The construction boom sustained support for the party along the lines of an electoral-cycle model. We have identified several channels behind the SDAP strategy. To begin, the housing program was part of a larger project of urban renewal. The program itself was conceived to attract young families. Apartments were not restricted to party members. The buildings were dispersed across districts such that tenants and nontenants could enjoy their design, the attractive art installations, adjoining green spaces, related improvements in public facilities, and other infrastructure investments. In brief, the buildings had unmistakable curb appeal.

The party was less effective in turning achievements in Vienna into nationwide electoral support. Despite public housing projects in other towns controlled by the SDAP, such as the *Triesterhof* in Graz or the *Dametzhof* in Linz, most urban centers did not have Vienna's resources to invest on a large scale. As for the middle classes outside Vienna, rent control was viewed as an unfair burden that redistributed wealth to the metropole. In their eyes, the new structures were fortresses protecting the wealth of Red Vienna. A victim of its own success, the city became the principal target of the Heimwehr, the anti-democratic right-wing militia, and the federal army that together brought down the First Austrian Republic. In this regard, the demise of social housing derived not from internal reasons, but from external forces.

During the mid 1930s and into the German occupation, the stock of social housing was unchanged. Interestingly, the conservative chancellor Engelbert Dolfuss, who shut down parliament in 1933, adopted only minor amendments to the rent control laws.⁴⁰ His new regime recognized that the private-sector housing remained unprofitable and that higher rents would translate into higher wages. After 1945 the British and Americans who occupied part of the city advocated private ownership, rejecting state intervention and public ownership.

The last chapter is more comforting. By the mid-1960s, the number of tenants in social housing was on the rise. The city of Vienna is currently responsible for 220,000 flats, housing 22 percent of the city's population. It is a global leader in real estate ownership and property management. The long-term success of the program puts paid to the repeated mantra about the endemic failures of social housing. In this view, social housing suffers from problems of asymmetric information and the diverging interests of residents and owners. Typically, Glaeser contrasts the efficiency of private ownership compared to the market distortions of public housing. Unlike tenants in subsidized housing, private-sector homebuyers responding to market signals have an incentive to preserve and upgrade their investments. At the neighborhood level, social housing drives out high-income residents and, in their place, attracts individuals with low levels of human capital. Urban growth stagnates. The end result is that social housing is often vacated entirely.⁴¹

Vienna presents a striking counterexample. The buildings' physical presence recalls a turbulent historical episode, but their legacy which has become the signature of Red Vienna has also been a force of local renewal and global emulation. Though construction activities have slowed down over in recent decades, social housing has not been abandoned and instead has attracted investment and contributed to the city's growth and prosperity. As the

⁴⁰ Andreas Suttner, *Das Schwarze Wien: Bautätigkeit im Ständestaat 1934–1938* (Vienna, 2017), 76. Maren Seliger, "Führerprinzip und berufsständische Vertretung auf kommunaler Ebene ?," in Tálos and Neugebauer (eds.), 177. Herbert Matis and Dieter Stiefel, "Mit den Vereinten Kräften des Capitals, des Credits und der Technik," Die Geschichte des österreichischen Bauwesens am Beispiel der Allgemeinen Baugesellschaft – A. Porr Aktiengesellschaft 1896–1945, I (Vienna, 1994), 224.

⁴¹ Edward Glaeser, *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier* (London, 2011). Edward Glaeser and Joseph Gyourko, "The Economic Implications of Housing Supply," *Journal of Economic Perspectives*, XXXII (2018), 3-30.

electoral-cycle model would predict, social democrats have occupied the mayor's office since World War II. While Bauer and his comrades may have lost the battle to defend Red Vienna, it would be fair to conclude that they have won the struggle for affordable and quality housing—providing a universal source of inspiration for urban renewal post-COVID-19.

APPENDIX

The model

For our purposes, we chose an error correction model (ECM) in a time-series and crosssection fixed-effects dynamic specification. ECMs are well adapted to the temporal nature of political change, because the model includes the first differences and levels of the lagged independent variables. ECMs can be derived from formal theories of equilibrium behaviour. An advantage of ECMs is that variables are parameterised in terms of changes, thereby avoiding spurious findings that may arise if the stationarity of the series is problematic as in the case of strongly autoregressive or nearintegrated data. Political time series often produce conflicting results with regard to testing for integration. In ambiguous situations like ours ECMs have several advantages. Given our short time period, unit root and panel cointegration tests where executable are unreliable, and often reveal non-stationarity. But even if the series were stationary, the ECM is informative. Owing to its dynamic specification, we can estimate and test for both short- and long-run effects.⁴²

We use district-fixed effects to account for unobserved and poorly measured variables. The model thus explains the variation within rather than between districts. Similarly, in order to control for common time variant effects, we introduce year dummies. ECMs can be estimated by ordinary least squares (OLS) unlike more refined estimators such as the generalised method of moments (GMM) estimator. Studies using Monte Carlo simulations confirm that OLS outperforms other panel data estimators in treating fixed effects bias (which can be problematic since fixed effects absorb a large part of the explanatory power of time-invariant explanatory variables), and in cases where the cross-section is small (N = 20), the time dimension is short (T = 5), and the coefficient on the lagged dependent variable is large ($\gamma = 0.8$). These conditions are present in our dataset and provide additional support for our estimation strategy.⁴³

In our model the first difference of the independent variables picks up the immediate effects of changes in these variables. The lagged variables represent the long-run effects. We estimate:

 $\Delta sdap_{it} = \alpha + \gamma \cdot sdap_{it-1} + \beta_1 \cdot \Delta flats_{it} + \beta_2 \cdot flats_{it-1} + \beta_3 \cdot \Delta servants_{it} + \beta_4 \cdot servants_{it-1} + \beta_5 \cdot \Delta young_{it} + \beta_6 \cdot young_{it-1} + \beta_7 \cdot \Delta jewish_{it} + \beta_8 \cdot jewish_{it-1} + district_i + year_t + \varepsilon_{it},$

where the dependent variable $\Delta sdap_{it}$ is the first difference of the Social Democratic Worker's Party (SDAP) vote share in district *i* and year *t*. The independent variables include, apart from the lagged level of the dependent variable, the lagged level (long-run effect) and the first difference (short run effect) of $flats_{it}$ which stands for the completed municipal housing stock per 1,000 inhabitants. In order to calculate the long-run effect of the independent variable, the coefficient β_2 is divided by $-\gamma$. The other explanatory variables include the control variables: the share of $servants_{it}$ in the labour force, the share of $young_{it}$ population below the age of 14 in total population, and the share of the $jewish_{it}$ population in total population. The right-hand side of the equation includes $district_i$ and $year_t$ fixed effects, and an error term ε_{it} . We report standard robust errors. We did not find signs of endogeneity in a regression of the first difference of the flats variable on the first difference and lagged level of the SDAP vote share. We ruled out multicollinearity among the explanatory variables since none of the variables are strongly correlated (correlation coefficients are equal to or greater than 0.8).

⁴² Suzanna De Boef and Luke Keele, "Taking Time Seriously," American Journal of Political Science, LII (2008), 184–200. ECM is also widely used in economic analysis. See, for instance, Tali Kristal, "Good Times, Bad Times: Postwar Labor's Share of National Income in Capitalist Democracies," American Sociological Review, LXXV (2010), 729–63; Erik Bengtsson, "Do Unions Redistribute Income From Capital to Labour? Union Density and Wage Shares Since 1960," Industrial Relations Journal, XLV (2014), 389–408.

⁴³ Hielke Buddelmeyer, et al., "Fixed Effects Bias in Panel Data Estimators," IZA Discussion Paper 3487, 2008.

In the main text we refer to a host of robustness checks and outcomes. To begin, we have used SDAP party membership and the Christian Social party vote shares as alternative dependent variables. We added additional independent variables and non-linearities to the baseline. We have tested for various specifications of the variable of interest: a measure of the stock of municipal housing flats that includes adjacent districts per 1,000 inhabitants; the stock of municipal housing flats containing artwork per 1,000 inhabitants; and the number of municipal buildings. We experimented with additional control variables consisting of the female share of young population, the female mortality rate, the share of employed in the workforce, the share of workforce in total population, and the Czech minority share in total population, as well as various interaction terms. Finally, we exclude serially single districts, fixed effects, and short-run dynamics. We conduct these tests for municipal and federal votes. These checks indicate a robust positive relationship between the construction of municipal housing stock and the SDAP vote share. In a few cases the municipal flat's coefficient loses statistical significance, but we never find a statistically significant negative relationship.

We also applied different types of estimators. The GMM estimator does not yield significant results and shows typical erratic patterns when the specification is modified even in a minor way. Since GMM is used for panels with short T and large N only, this estimator does not fit our purposes in any event. Alternatively, we employed an autoregressive distributed lag (ADL) model for the level of SDAP vote share that includes on the right-hand side the lagged dependent variable as well as the contemporary and lagged levels of the other explanatory variables. Across various specifications the coefficients of the contemporary and the lagged stock of municipality flats per 1,000 inhabitants are significant and always positive. In a further check, we used a bias corrected LSDV dynamic panel data estimator (LSDVC) that controls for the fixed effects bias in panels with small N and small T.⁴⁴ Our results hold in this specification.

In order to establish a (statistically) causal relationship, we estimate for single years a robust two-stage least squares (2SLS) model. Given the degrees of freedom, we are restricted to a minimal model with two explanatory variables: the municipal housing indicator and the share of servants in the workforce. In the first stage we explain the flats per 1,000 inhabitants using as an instrument the number of city railway stations built before WWI. The results for the years 1927 and 1932 yield a positive and significant impact of municipal housing on the SDAP vote share. Tests of endogeneity indicate that the null hypothesis of exogeneity cannot be rejected. Our results hold in a simple OLS setting. To be complete, we report the first stage results of the 2SLS model below. The regression R² of 0.73 and the unreported Shea's partial R² of 0.58 are high. The F-statistic of 33 is far above the standard threshold of 10. A weak-instrument problem can be safely eliminated. Since we have only one instrument, we cannot perform an overidentifying restriction's test for excluded instruments.

⁴⁴ Bruno, Giovanni S.F., "Estimation and inference in dynamic unbalanced panel-data models with a small number of individuals," *The Stata Journal*, V (2005), 473–500.

	1022	1027	1022
_	1923	1927	1932
VARIABLES	FLATS	PER 1,000 HABITANTS	
Share of servants in workforce	-0.025	-0.853***	-1.551***
	0.018	0.196	0.295
Stations per 1k population	-2.187	96.42***	213.6***
	2.304	20.09	37.13
Constant	0.512	11.73***	21.87***
	0.339	2.598	3.215
Observations	21	21	21
R-squared	0.124	0.720	0.730

FIRST STAGE RESULTS 2SLS REGRESSION OF THE DETERMINANTS OF SDAP VOTES IN MUNICIPAL ELECTIONS WITH CITY RAILWAY STATIONS IN 1912 AS INSTRUMENT FOR PUBLIC HOUSING

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Notes on data sources

The dependent variable in our regression is the share of votes by district for the Social Democratic Workers' Party (*Sozialdemokratische Arbeiterpartei*, SDAP) as a percent of all valid votes cast in the city council (*Gemeinderatswahl*) and national elections (*Wahl zur konstituierenden Nationalversammlung* in 1919 and the *Nationalratswahl* for other years). We consider results for the municipal elections of 1919, 1923, 1927, and 1932; and national elections of 1919, 1920, 1923, 1927, and 1930. After the dissolution of the monarchy in 1918, every adult citizen above the age of 20 had the right to vote in the city council elections if registered in Vienna on the day the election was called. The threshold for eligibility in national elections was 20 years of age for Austrian citizens. We attempted to locate sub-district information in various archives for individual polling stations (the city of Vienna archives, city of Vienna library, department 62 of the city of Vienna which is the office responsible for administering elections, and the archives of the Association for the History of the Labour Movement). We located in the records of the Ministry of the Interior (deposited in the Austrian State Archives) detailed election data only for the last national election of the First Republic (1930).⁴⁵

The explanatory variable of interest is the stock of public housing flats (Gemeindebau) per 1,000 inhabitants in each district. Information on the annual number of flats completed was retrieved from the housing department (*Wiener Wohnen*) of the city of Vienna. The data were corrected for the change of district borders in 1938. Flats from the current district 23 were folded into district 12; those from district 22 with district 21. We adjusted for border changes between districts 21 and 2. Flats from the current district 15 were split into districts 15 and 14 using detailed location data and historical maps. Flats from the current district 14 were merged with district 13. The stock of flats covers the period from 1922 to 1932.⁴⁶

⁴⁵ Information on votes cast from Seliger and Ucakar, *Wahlrecht und Wählerverhalten*.

⁴⁶ On housing stock and district borders, see Wiener Wohnen, https://www.wienerwohnen.at/wienergemeindebau/gemeindebaubeschreibungen.html *Verordnungsblatt für den Amtsbereich des Bürgermeisters von Wien, 15. Oktober 1938, 9. Stück'*, Staatsdruckerei, Vienna, 17-20. Stadt Wien, https://www.wien.gv.at/kulturportal/public/grafik.aspx?bookmark=3M1ORue OKEZmpQFFviqURBwpYIDf&lang=de&bmadr=

Demographic data generally correspond to census years 1910, 1923, and 1934.⁴⁷ For some demographic variables the reporting year changes. Values for missing years were interpolated. The workforce recorded in these surveys excludes persons without a profession (for instance, rentiers and pensioners) and persons in vocational training. The 1923 census did not report the number of unemployed. Unlike other years, the professional distribution for 1923 refers to the employed only. To account for this, our implicit assumption is that the structure of the unemployed in 1923 was similar to that of the employed. As for ethnic composition, the 1910 census gave the primary language of the civilian or non-military population, in 1923 for the total population, and in 1934 for residents (those with a permanent address). In all cases, missing years were interpolated.

Information on city railway stations by district in 1912 (per 1,000 inhabitants) was retrieved from maps of the original plans for the system.⁴⁸ We then compared the original plans to the actual network in 1926. We cross-checked our procedure with information on each particular city railway line in Vienna. We considered these lines (number of stations): Donaukanallinie (6), Gürtellinie (9), Obere Wientallinie (7), Untere Wientallinie (7), Vorortelinie (10), Verbindungsbahn (15), Donauländebahn (8), Donauuferbahn (11), Nordbahn (3), Nordwestbahn (4), Aspangbahn (3), Ostbahn (7), Südbahn (3), Kaiser Franz-Josefs-Bahn (4), and Kaiserin Elisabeth-Bahn (4). Connecting stations between city railway lines were given additional weight because of their role in the network.

 ⁴⁷ Demographic information from Andreas Weigl, *Demographischer Wandel und Modernisierung in Wien*,
 (Vienna, 2010). Information on workforce and ethnic population from Banik-Schweitzer, *Zur sozialräumlichen Gliederung*, with the exception of Jewish population from Seliger and Ucakar, *Wahlrecht und Wählerverhalten*.
 ⁴⁸ We relied on maps B2 and C2 from Harald Helml, "Stadtbahn und U-Bahn in Wien. Zur Geschichte eines verspäteten Massenverkehrsmittels." Helml's maps are taken from Ferge, *Beitrag zur Lösung des Wiener Verkehrsproblems*.

Fig. 1 Timeline of Main Events







Notes and sources: Real expenditures 1923=100. Chain index with break in 1932. Expenditures from Magistrat der Stadt Wien, "Die Verwaltung der Bundeshauptstadt Wien in der Zeit vom 1. Jänner 1923 bis 31. Dezember 1928 unter den Bürgermeistern Jakob Reumann und Karl Seitz," (Vienna, 1933); Magistrat der Stadt Wien, "Die Verwaltung der Bundeshauptstadt Wien in der Zeit vom 1. Jänner 1929 bis 31. Dezember 1931 unter dem Bürgermeister Karl Seitz," (Vienna, 1949); Statistisches Amt der Stadt Wien, "Statistisches Taschenbuch für Wien," (Vienna, 1932-1937). Prices from Gerald Hubmann, Clemens Jobst, and Michaela Maier, "A New Long-run Consumer Price Index for Austria (1800–2018)," *Oesterreichische Nationalbank*, Q3 (2020), 61-88.



Fig. 3 Number of Social Housing Flats and Buildings, 1922-1933

Notes and sources: Completed construction. See appendix for sources.

Fig. 4 Public and Private Housing: Rents, Household Income, Expenditure on Non-food and Non-rent and on Transport



Notes and sources: Compiled from Kautsky, "Die Haushaltstatistik," and Loibner, "Crisis-resilience of Community Housing."





Sources: Wiener Stadt- und Landesarchiv, "Wiener Stadt- und Bezirksgrenzen 1850-1982," (Vienna 1982).



Notes and sources: SDAP municipal is the vote share for the SDAP in municipal elections; SDAP Vienna Federal is the vote share in Vienna in federal elections; SDAP Austria Federal is the vote share in Austria. See appendix for sources.

Fig. 6 SDAP Election Results for Vienna and Austria



Fig. 7 Social Housing Buildings by District in 1932

Sources: See appendix.



Fig. 8. SDAP Vote and Housing Construction Before and After 1927 Election

Notes and sources: A ratio of 100 signifies the same number of municipal housing flats constructed in the two years before and after the 1927 elections. See appendix for sources.

MEAN VALUES OF VARIABLES BY DISTRICT						
			SERVANTS			MUNICIPAL
	SDAP SHARE	SDAP SHARE	SHARE IN	AGE <14	JEWISH	FLATS PER
	MUNICIPAL	NATIONAL	WORK	SHARE IN	POPULATION	1K
DISTRICT	ELECTIONS	ELECTIONS	FORCE	POPULATION	SHARE	POPULATION
1	31.8	29.3	26.4	7.0	23.9	0.0
2	56.3	54.6	8.8	14.1	36.8	6.6
3	49.8	47.5	9.9	12.7	9.3	8.5
4	32.1	30.2	17.1	9.4	9.4	1.0
5	56.8	54.9	3.8	13.4	4.7	12.6
6	44.2	42.2	11.0	10.3	15.7	0.8
7	40.9	39.2	10.7	9.9	15.0	0.5
8	38.2	35.4	12.4	9.2	13.2	1.6
9	48.2	46.6	12.1	10.4	24.2	3.7
10	70.6	69.3	1.3	19.5	2.6	14.7
11	69.9	67.0	1.5	21.5	0.9	15.5
12	63.5	61.6	2.4	17.4	2.4	20.9
13	57.1	54.8	6.7	15.9	4.2	12.6
14	65.1	64.3	2.0	16.8	4.5	5.6
15	57.4	55.9	2.8	14.2	5.3	7.7
16	69.1	68.1	1.4	17.6	2.9	7.4
17	59.3	58.2	2.3	16.1	4.0	5.1
18	43.2	41.2	8.0	12.9	5.6	6.3
19	52.7	50.2	11.2	16.5	9.6	15.2
20	70.3	68.3	2.1	20.0	17.5	16.4
21	70.2	68.4	2.0	22.2	1.8	16.3
Average	54.6	52.7	7.4	14.6	10.2	8.5
Standard deviation	12.7	12.9	6.4	4.3	9.3	6.3

Table 1 Mean Values of Variables by District, 1919-1932

Notes and sources: See appendix for detail on district borders and sources.

	_	CONSTRUCTION DATE		_		
NAME	DISTRICT	START	END	ARTWORK	FLATS	SHOPS
Aichholzgasse 52	12	1929	1930	Ν	735	3
Wildganshof	3	1931	1932	Y	738	33
Wohnsiedlung Lockerwiese	13	1928	1932	Y	763	29
Am Wienerberg	12	1926	1927	Y	780	17
Goethehof	2	1929	1930	Y	783	28
George-Washington-Hof	10	1925	1930	Y	1008	65
Rabenhof	3	1925	1928	Y	1110	55
Karl-Seitz-Hof	21	1926	1931	Y	1130	62
Karl-Marx-Hof	19	1927	1930	Y	1268	46
Wohnhausanlage Sandleiten	16	1924	1928	Y	1514	153

Table 2 Ten Largest Social Housing Buildings

Notes and sources: See appendix.

	(1)	(2)	(3)	(4)	(5)
VARIABLES	CHANGE IN SHARE OF SDAP VOTES				
Lagged share of SDAP votes	-0.461**	-0.723***	-0.692***	-0.794***	-0.781***
	(0.192)	(0.108)	(0.105)	(0.103)	(0.0936)
Lagged share of servants in work force		-4.193***	-2.441**	-1.574*	-6.279***
		(0.689)	(1.069)	(0.764)	(1.322)
Lagged flats per 1k population	-0.0444	0.0961**	0.154***	0.141***	0.120***
	(0.0591)	(0.0346)	(0.0329)	(0.0359)	(0.0335)
Lagged share of population <14			2.344**	3.093***	
			(0.975)	(0.867)	
Lagged share of Jewish population				-2.344***	
				(0.541)	
Lagged interaction servants x flats per 1k					0.0147*
					(0.00804)
Constant	25.97**	67.00***	21.12	39.27*	83.15***
	(11.34)	(7.796)	(21.98)	(20.27)	(10.89)
Observations	63	63	63	63	63
R-squared	0.735	0.893	0.911	0.934	0.917
Number of districts	21	21	21	21	21

Table 3 The Determinants of SDAP Votes in Municipal Elections

Notes and sources: Method of estimation is OLS. The dependent variable is the change in SDAP vote in municipal elections. See appendix for details. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)	(4)
VARIABLES	CHANGE IN SHARE OF SDAP VOTES				
Lagged share of SDAP votes	-0.492***	-0.723***	-0.743***	-0.795***	-0.733***
	(0.163)	(0.129)	(0.142)	(0.122)	(0.130)
Lagged share of servants in work force		-2.711***	-2.648***	-2.124**	-2.781***
		(0.300)	(0.876)	(0.810)	(0.361)
Lagged flats per 1k population	-0.0563	0.0688**	0.0777**	0.0718**	0.0524
	(0.0522)	(0.0312)	(0.0320)	(0.0309)	(0.0419)
Lagged share of population <14			0.320	0.952	
			(0.775)	(0.601)	
Lagged share of Jewish population				-0.904*	
				(0.469)	
Lagged interaction servants x flats per 1k					0.00872
					(0.0112)
Constant	28.39***	59.04***	54.51***	55.13***	59.92***
	(9.671)	(8.387)	(14.86)	(12.13)	(8.792)
Observations	84	84	84	84	84
R-squared	0.961	0.985	0.985	0.986	0.985
Number of districts	21	21	21	21	21

Table 4 The Determinants of SDAP Votes in National	Flections

Notes and sources: Method of estimation is OLS. The dependent variable is the change in SDAP vote in national elections. See appendix for details. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

	1923	1927	1932				
VARIABLES	CHANGE IN SHARE OF SDAP MUNICIPAL VOTES						
Share of servants in workforce	-2.334***	-1.387***	-1.033**				
	(0.563)	(0.302)	(0.399)				
Flats per 1k population	-19.25	0.376**	0.233**				
	(24.38)	(0.154)	(0.0921)				
Constant	74.54***	63.32***	57.69***				
	(7.449)	(4.008)	(4.115)				
Observations	21	21	21				
R-squared	0.239	0.828	0.712				

Table 5 2SLS Results With City Railway Stations in 1912 as Instrument for Public Housing

Notes and sources: See appendix for details on instrument. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1