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**DEMOGRAPHIC REASONS FOR HIGH BIRTH RATES  
IN VIENNA IN MARCH 1946<sup>1</sup>**

The authors analyse and refute a statement that appears in memory politics debates. In their view, it is unlikely that the increase in births in Vienna in March 1946 was due mainly to sexual assaults committed by Soviet and other soldiers. It is much more likely that the temporary increase in the number of births can be traced back to the May 1945 marriage boom. Although traditional time series analysis methods are difficult to use in this case, the authors have applied simple analytical tools that make their position plausible. The results obtained also call into question estimations of the high number of rapes committed by the Soviets. The authors also analyse some elements of the related literature.

*Keywords: Soviet war crimes, liberation of Vienna, memory politics debates, wartime sexual violence*

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## INTRODUCTION

Research into crimes committed by the various armies against the civilian population (especially sexual violence by Soviet soldiers) has become part of the politics of memory in many countries in recent years. However, the claims made during confrontations over memory politics have sometimes become ‘irrefutable’ truths without the authors having clarified their veracity or having ensured the methodological correctness of the research with scientific rigour. The scientific (fact-finding) nature of the debates is therefore becoming increasingly secondary.

Of course, the frequent fragmentation and unreliability of sources is often an obstacle to thorough research. Reliable data on the number of sexual relations between the civilian population and soldiers belonging to the various armies, on the rate of rape within sexual relations, on the evolution and causes of the number of venereal diseases, on the evolution of the number of abortions, on the identity of the biological father and the nature of the sexual relationship in the case of aborted and terminated pregnancies, etc., are scarce in the years during and after the Second World War. Therefore, all researchers should approach the issue with extreme caution.

It is understandable that for difficult-to-research topics, researchers turn their attention to methods such as oral history and memoirs. However, without proper source criticism, balance, and emphasis on the limitations of the methodology, it is possible, by these methods, to “argue” essentially anything and everything. This provides an excellent breeding ground for falsifying history and manipulating it for political trends.

Research into the atrocities committed and their consequences must be carried out primarily by ‘real’ scientific methods, such as statistical methods. Despite the obstacles that make research difficult, the search for the “truth” must be based on breaking down these obstacles rather than on choosing less exact methods. And where data gaps exist, speculation for political purposes should be avoided.

In this article, we attempt to either confirm or disprove a premise that appears in the literature on memory politics, one that is perhaps the easiest to test based on population statistics and correlations. Specifically, we examine whether the observed phenomenon can be justified on the basis of available population statistics and contexts.

The aim of this study is to provide a partial clarification of the situation in Vienna after liberation. The fact that the statistical data for Vienna have been available in detail and in a relatively uniform structure since 1883 with virtually no interruption (*Statistisches Jahrbuch der Stadt Wien*) will certainly facilitate research.

It is not the purpose of this study to examine in detail the rapes committed during the war. That is beyond the scope of this article. We are simply looking for an answer to the question of the causes of the March 1946 birth-rate spike in Vienna, based on population statistics and possibly other statistical data and correlations. (If no clear correlation can be found, then other factors may be sought to explain the apparent spike in the March 1946 birth rate.)

## THE LIBERATION OF VIENNA AND THE POST-WAR POLITICAL SITUATION

On 2 April 1945, Soviet and Bulgarian troops attached to the Red Army began Operation Vienna (*Венская наступательная операция*). This was mainly aimed at occupying Vienna, which Hitler had declared a fortress city like Budapest. However, the city was liberated much faster than Budapest. Tolbuhin's and Stoychev's troops began to attack the city directly on 5 April, after the surrounding towns had been captured, and by 13 April, after the remaining German units had broken out, the entire administrative area of Vienna was under Red Army control.<sup>2</sup> *Operation Radetzky*, led by Austrian Wehrmacht Major Carl Szokoll, which had largely unravelled and against which the Nazis had retaliated ahead of schedule, played a major psychological role in the relatively quick liberation of the city. Despite the relatively brief siege, the city suffered heavy damage, but less than Budapest, with fewer military and civilian casualties. On 27 April 1945, a provisional coalition government was formed under the leadership of the socialist Karl Renner.

Public administration and local political life were, in many cases, restored immediately after the fighting had ended. In some municipalities

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2 С. Е. ЛАЗАРЕВ, "Венская операция 1945", в *Российская историческая энциклопедия в 18 томах Т. 4.*, ред. А.О. ЧУБАРЬЯН (Санкт-Петербург: ОЛМА Медиа Групп, 2017), 80–81.

and districts, the new administration welcomed the arriving Allies. The provisional municipal administration of Vienna was established on 13 April 1945, and the reorganisation of life began soon after. Austria had already been declared a victim of Nazism by the Allies at the Third Moscow Conference (18 October - 11 November 1943), and it was decided that it should become an independent state after liberation. On 27 April 1945, the parties that founded the Second Republic (SPÖ, ÖVP, KPÖ) proclaimed Austria's independence and the annulment of the 1938 Anschluss (*Österreichische Unabhängigkeitserklärung*). However, the country did not regain full independence until 1955.

The division of Austria into occupation zones was already provided for in the *Moscow Declaration* of 30 October 1943. In essence, the borders defined in this were also included in the Agreement on Allied Control (*Abkommen über die Alliierte Kontrolle*). On this basis, Austria and Vienna were divided into four occupation zones. The three Western Allies controlled the western and southern parts of Austria and 15 districts of Vienna. The Soviet zone included the eastern part of Austria and six districts of Vienna. One district (*Innere Stadt*) was jointly administered by the four Allied powers.<sup>3</sup>

## PREVIOUS DEMOGRAPHIC RESEARCH

International publication databases contain only few related demographic research results. It can generally be said that, due to the unreliability, incompleteness, and confused nature of the data, researchers analyse the periods up to the last year of peace or from the first consolidated years of peacetime.

The analysis of demographic trends during and immediately after the war is therefore tangential and cautious. We find this in the works

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3 STEFAN AUGUST LÜTGENAU, "Zwangsarbeit im 'Reichsgau' Wien 1938–1945", in *Studien zur Wiener Geschichte. Jahrbuch des Vereins für Geschichte der Stadt Wien* 59, hg. SUSANNE CLAUDINE PILS (Wien: Verein für Geschichte der Stadt Wien, 2003), 167–186.

of Srb<sup>4</sup>, Glass<sup>5</sup> <sup>6</sup>, Mazur<sup>7</sup>, Hémery and Rabut<sup>8</sup>, Pressat<sup>9</sup>, Artzrouni and Easterlin<sup>10</sup>, Munoz-Perez<sup>11</sup>, Hadživuković<sup>12</sup>, Falkingham and Gjonça<sup>13</sup>. The literature thus warns us to be very cautious about the data available for analysis and the methods that can be used.

## EXAMINING RAPE BY SOVIET SOLDIERS IN AUSTRIAN MEMORY POLITICS

In this article we do not intend to analyse the whole problem of memory politics. This is well beyond the scope of a single article. However, it is worthwhile to give some insights into related research and to highlight some of its characteristics.

Rape by Soviet and other soldiers became a visible topic in Austrian public discourse and literature from the 1990s onwards. Despite growing awareness of the topic, the major academic databases contain hardly any articles on the subject. (The databases of some political newspapers contain much more.) The Institute of History at the University of Vienna does not mention the topic in its current and former priority

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- 4 V. SRB, "Population Development and Population Policy in Czechoslovakia", *Population Studies* 16, no. 2 (November 1962): 147–159. DOI: 10.2307/2173122
  - 5 D. V. GLASS., "Family Planning Programmes and Action in Western Europe", *Population Studies* 19, no. 3 (March 1966): 221–238. DOI: 10.2307/2172820
  - 6 D. V. GLASS, "Fertility Trends in Europe Since the Second World War", *Population Studies* 22, no. 1 (March 1968): 103–146. DOI: 10.2307/2173349
  - 7 D. P. MAZUR, "Reconstruction of Fertility Trends for the Female Population of the U.S.S.R.", *Population Studies* 21, no. 1 (July 1967): 33–52. DOI: 10.2307/2172927
  - 8 S. HÉMERY, O. RABUT, "La contribution des étrangers à la natalité en France", *Population* 28, no. 6 (Novembre-Décembre 1973): 1063–1077. DOI: 10.2307/1530577
  - 9 R. PRESSAT, "Le relèvement de la fécondité au Royaume-Uni", *Population* 35, no. 1 (Janvier-Février 1980): 190–194. DOI: 10.2307/1531895
  - 10 M. A. ARTZROUNI, R.A. EASTERLIN, "Birth History, Age Structure, and Post-World War II Fertility in Ten Developed Countries: an Exploratory Empirical Analysis", *Genus* 38, no. 3-4 (July-December 1982): 81–99.
  - 11 F. MUNOZ-PEREZ, "Le déclin de la fécondité dans le sud de l'Europe", *Population* 42, no. 6 (Novembre-Décembre 1987): 911–941. DOI: 10.2307/1532736
  - 12 S. HADŽIVUKOVIĆ, "Population Growth and Economic Development – A Case Study of Yugoslavia", *Journal of Population Economics* 2, no. 3 (November 1989): 225–234. DOI: 10.1007/BF00177325
  - 13 J. FALKINGHAM, A. GJONÇA, A., "Fertility Transition in Communist Albania, 1950–90" *Population Studies* 55, no. 3 (November 2001): 309–318. DOI: 10.1080/00324720127699

research, but a special research group is dealing with sexual violence by the Austro-Hungarian Army during the First World War (*Sexuelle Gewalt im Ersten Weltkrieg: Militärgerichtsakten der k. u. k. Armee und Selbstzeugnisse als Quellen*).<sup>14</sup>

Research on our topic is currently carried out mainly at the Ludwig Boltzmann Institute for Research on War Consequences (*Ludwig Boltzmann-Institut für Kriegsfolgen-Forschung*), founded in 1993 by Stefan Karner.<sup>15</sup> (In addition to his academic work, Karner was Vice President of the Political Academy of the Austrian People's Party [ÖVP] from 1995 to 2010.)<sup>16</sup>

The work of the research institutes of the privately run but publicly funded Ludwig Boltzmann Gesellschaft (LBG) is hardly recognised in the Austrian and international scientific community. The LBG's scientific role is often criticised. It is unusual in the scientific world that the Ludwig Boltzmann Gesellschaft was headed from 2011–2020 by Josef Pröll, former ÖVP politician and Vice-Chancellor, an individual with no scientific background.<sup>17</sup>

Within *Kriegsfolgenforschung's* research, the study of rape by Soviet soldiers is emphasised. This is perhaps due to the fact that the institute is currently headed by Barbara Stelzl-Marx, who has probably published the most on Soviet occupation in Austria. A significant portion of these publications have appeared in the Austrian right-wing and liberal press. The book in which she summarises her research also examined rape by Soviet soldiers.<sup>18</sup> Stelzl-Marx's analysis is sparsely referenced with data, and she uses mostly reminiscences and interviews. In addition to examining sporadic, poorly documented cases, the chapter de-heroises the entire Red (Soviet) Army.

14 "Research", *University of Vienna, Department of History*, last modified January 19, 2021, <https://ifg.univie.ac.at/en/research/> (Accessed August 30, 2021)

15 "Das Institut", *Ludwig Boltzmann-Institut für Kriegsfolgen-Forschung*, zuletzt geändert am 7. März 2021, <https://bik.ac.at/das-institut/> (Abgerufen am 30. August 2021)

16 "Univ.-Prof. Dr. Stefan Karner", *Universität Graz, Institut für Wirtschafts-, Sozial- und Unternehmensgeschichte*, zuletzt geändert am 26. Juli 2021, <https://wirtschaftsgeschichte.uni-graz.at/de/institut/institutsteam/stefan-karner/> (Abgerufen am 30. August 2021)

17 "Neuer LBG-Vorstand konstituiert", *Ludwig Boltzmann Gesellschaft*, zuletzt geändert am 30. Oktober, 2020, <https://www.lbg.ac.at/themen/neuer-lbg-vorstand-konstituiert/> (Abgerufen am 30. August 2021)

18 BARBARA STELZL-MARX, *Stalins Soldaten in Österreich: Die Innensicht der sowjetischen Besatzung 1945–1955* (Vienna/Munich: Böhlau/Oldenbourg, 2012), 466–74. DOI: 10.26530/OAPEN\_453611

Stelzl-Marx acknowledges that prostitution had already reached a high level during the war due to severe food shortages. According to Stelzl-Marx, the large number of professional and casual Viennese prostitutes suffering from venereal diseases led the US army to use posters to warn American soldiers of the dangers of prostitution.<sup>19</sup> The Red Army also strictly prohibited soldiers from having any intimate contact with women in the occupied territories.<sup>20</sup>

Stelzl-Marx identifies a small outbreak of venereal disease in 1945 without analysing the earlier period, and attributes it to rape by the Red Army. The involvement of the US and other Allied troops, the German troops who had been there before, and the local male population is barely touched upon.<sup>21</sup>

In addition to some data from statistical yearbooks, which in themselves prove nothing, Stelzl-Marx makes use of the a very important document on rape by Gertrud Kerschbaumer, who writes about 639 rapes reported in and around Graz in 1945. Stelzl-Marx mentions three British perpetrators in the Styrian cases, leaving the identity of the others open, but the context suggests Soviet perpetrators.<sup>22</sup> In Kerschbaumer's original book chapter, the title of the published table clearly refers to the crimes of the Soviets. The table shows the number of rapes committed between 2 June 1945 and 31 December 1945. Of the 639 cases, 160 occurred between 2 February and 13 July, and 479 in the rest of the year.<sup>23</sup>

In mid to late July 1945 (officially from 24 July), the Soviet occupation troops were replaced by British occupation troops in Styria. Although the section boundary of the police station data does not quite coincide with the Soviet-British replacement, the period of British command saw proportionally only slightly less rape than that of the Soviets. It is assumed that the vast majority of rapes attributed to the Soviets by Kerschbaumer were not committed by them. Neither is it certain that the reported rapes were actually rapes. Indeed, the Styrian provisional

19 STELZL-MARX, *Stalins Soldaten in Österreich*, 481.

20 FJODOR SZINYICIN, „A szovjet katonai hatóságok intézkedései a (magyar) polgári lakosság jogainak védelmében, 1944–1945”, *Eszmélet* 129. (2021. tavasz): 98–99.

21 STELZL-MARX, *Stalins Soldaten in Österreich*, 486–87.

22 STELZL-MARX, *Stalins Soldaten in Österreich*, 486.

23 GERTRUD KERSCHBAUMER, „Sowjetische Besatzungszeit in Graz. Überprüfung von Mythen in Graz in der NS-Zeit 1938–1945”, hg. STEFAN KARNER (Graz: Veröffentlichungen des Ludwig Boltzmann-Instituts für Kriegsfolgen-Forschung. Sonder-Bd. 1. 2. Aufl., 1999), 205.

government had on 26 May 1945 allowed abortions to be legally performed in exceptional cases (e.g., in cases of rape certified by the police).<sup>24</sup> This was obviously a relief for women who had been raped, but it also provided a safe way to terminate any unwanted pregnancy if the woman reported rape as the cause. (Both phenomena were observed by contemporaries.)

However, the Austrian Provisional Government decided on 12 June 1945 to reintroduce the Austrian Penal Code. The law was promulgated on 23 June.<sup>25</sup> <sup>26</sup> Section 144 of the Austrian Penal Code banned and severely punished abortion, annulling the Styrian government's decree of 26 May. Although the law was presumably only gradually applied with full rigour, its effect may have been felt to some extent from 23 June. Before that (during the Soviet occupation), however, many people had certainly claimed rape and were given the opportunity to have an abortion. Although there is much uncertainty in the data, and latency must be taken into account, the key document does not prove that Soviet soldiers committed rape in and around Graz in any but a few sporadic cases. A further twist in the story is that the abortion technique used in the era was essentially the rather brutal "dilation and curettage", which did not allow for the termination of pregnancies under six weeks, but, even in the 21<sup>st</sup> century, is typically used to remove an older embryo or foetus from a pregnant woman's womb.<sup>27</sup>

Women who had abortions at the beginning of June, and were therefore often considered victims of rape,<sup>28</sup> could therefore not have been victims of the Soviet soldiers who entered Graz on 9 May and who had been working with the new socialist-communist-conservative coalition city government from the beginning.<sup>29</sup>

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24 STELZL-MARX, *Stalins Soldaten in Österreich*, 475.

25 "Staatsgesetzblatt für die Republik Österreich", Ausgegeben am 23. Juni 1945, *Staats- und Bundesgesetzblatt 1945–2003*, zuletzt geändert am 29. Juni, 2021, [https://www.ris.bka.gv.at/Dokumente/BgblPdf/1945\\_25\\_0/1945\\_25\\_0.pdf](https://www.ris.bka.gv.at/Dokumente/BgblPdf/1945_25_0/1945_25_0.pdf) (Abgerufen am 31. August 2021)

26 STELZL-MARX, *Stalins Soldaten in Österreich*, 474.

27 JENNIFER LOHMANN-BIGELOW, SHERRI A. LONGO, XIAOZHANG JIANG, ALFRED G. ROBICHAUX, "Does Dilation and Curettage Affect Future Pregnancy Outcomes?", *The Ochsner Journal* 7, no. 4 (Summer 2007): 173–76.

28 STELZL-MARX, *Stalins Soldaten in Österreich*, 476.

29 "Rundgang: Befreiung 1945 in Graz", *erinnern.at*, zuletzt geändert am 8. Mai, 2020, <https://www.erinnern.at/bundeslaender/steiermark/termine/rundgang-befreiung-1945-in-graz> (Abgerufen am 31. August 2021)

There is a similar situation with another key document claiming to confirm the increased number of sexual diseases caused by Soviet rapes in the Melk district.<sup>30</sup> To interpret the document, we have to take into account the large number of German troops in the area at the end of the war, the simultaneous arrival of the Americans and the Soviets, and the many crimes committed by some of the prisoners released from Melk concentration camp. As the data before liberation is incomplete and the level of latency may be high, we do not know how the data series evolved in the longer term (before and after 1945). We also do not know the impact of professional and casual prostitution. The explosion in sexual diseases could, therefore, not only have been caused by the Soviets, and not necessarily only by forced sexual intercourse.<sup>31</sup>

Although the majority of the works cited so far touch on German (and Austrian) crimes, it should be stressed that the Nazi crimes committed on the Eastern Front (mass genocide, slavery, destruction, robbery and rape) are incomparably more serious than the sporadic crimes of Soviet and other Allied soldiers. Moreover, the Red Army severely punished soldiers who abused the civilian population.<sup>32</sup> This is very different from the actions of the German (and Austrian) or even Hungarian occupying troops in Soviet territories, who used military tribunals primarily against the civilian population rather than their own soldiers.<sup>33</sup> It is not true that the crimes committed at the expense of the German, Austrian, Hungarian and other populations were part of some kind of collective revenge. Instead, revenge must be understood as the driving force behind the deviant behaviour of individual soldiers.

An important element that emerges from Soviet soldiers' memoirs is that the population of Vienna welcomed them positively and as liberators, despite the earlier propaganda from Goebbels. Starving Austria, and especially starving Vienna, was happy about the Soviet emergency kitchens and food distributions, the organisation of cultural life, the relative calm and security. The soldiers themselves clearly

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30 MARIANNE BAUMGARTNER, "Zwischen Mythos und Realität – Die Nachkriegsvergewaltigungen im sowjetisch besetzten Mostviertel", *Unsere Heimat*, (1993): 73–108.

31 "Auf das Kriegsende folgte Chaos", *NÖN.at*, zuletzt geändert am 9. Mai, 2020, <https://www.noen.at/melk/bezirk-melk-auf-das-kriegsende-folgte-chaos-melk-zweiter-weltkrieg-gerhard-flossmann-204239285> (Abgerufen am 31. August 2021)

32 SZINYICIN, „A szovjet katonai hatóságok intézkedései a (magyar) polgári lakosság jogainak védelmében, 1944–1945”, 104–5.

33 FÓRIS ÁKOS, *A magyar megszálló politika a szovjet területeken 1941–1944, doktori disszertáció* (Budapest: ELTE BTK, 2021): 207–11.

distinguished the Austrian civilians from the Wehrmacht soldiers. Despite the prohibitions, Soviet soldiers and Austrian women often fell in love and sometimes later married.<sup>34 35</sup>

## AUSTRIAN SOURCES IN HUNGARIAN MEMORY POLITICS

Austrian sources, especially those from Vienna, are very important in Hungarian memory politics. This is mainly due to the work of Andrea Pető, who has been researching the topic since the late 1990s and is one of the leading experts on the subject. Right from her first significant writings, the events in Austria and Vienna have been an important reference point.

Without wishing to be exhaustive, it is worth drawing attention to some of the characteristics of her writings, so that we can move on to the main topic of our article.

In Pető's writings, the works of the historians grouped around the Ludwig Boltzmann Gesellschaft and the documents they cite are an important reference, but her works seem much less balanced than those of her Austrian colleagues. This fits in very well with the highly publicised, uncritically anti-Soviet, neo-Horthyst current of Hungarian "historiography".<sup>36</sup>

Negation or tendentious misinterpretation of archival documents, ignorance of data gaps, a tendency to fill these gaps with invented facts and figures, and neglect of the methodological requirements of statistics as an auxiliary science are all unfortunately quite common among Hungarian star historians today. Andrea Pető's writings are sometimes no exception to this.

According to Pető, prostitution in Vienna existed only in the American zone, and any sexual partner of a Red Army soldier could only have been a victim.<sup>37</sup> This is a ridiculous claim, as outlined earlier on.

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34 "Die Rote Armee im April 1945 in Wien", *WienerZeitung.at*, zuletzt geändert am 3. April, 2021, <https://www.wienerzeitung.at/nachrichten/reflexionen/vermessungen/2098865-Die-Rote-Armee-im-April-1945-in-Wien.html> (Abgerufen am 31. August 2021)

35 STELZL-MARX, *Stalins Soldaten in Österreich*, 496–524.

36 KRAUSZ TAMÁS, *Történetírás és emlékezetpolitika* (Budapest: Alapítvány az Orosz Nyelvért és Kultúráért, 2021), 225.

37 PETŐ ANDREA, „Átvonuló hadsereg, maradandó trauma – Az 1945-ös budapesti nemi erőszak esetek emlékezete”, *Történelmi Szemle* 41, 1–2. (1999): 95.

Pető underestimates the number of prostitutes, since she only takes into account the number of officially registered prostitutes. However, the Viennese police found 1,601 unregistered prostitutes working in their homes in 1943 and 1,942 in 1944. By comparison, the number of professional prostitutes was 338 in 1943 and 176 in 1945. Of the prostitutes working at home, 336/244 were suffering from gonorrhoea and 40/78 from syphilis in 1943–44, respectively.<sup>38</sup> The real number may have been much higher in 1944. And in Vienna, which was hit by a severe famine at the beginning of 1945, it is not even possible to estimate the exact number of prostitutes. (The rise in prostitution has already been discussed in connection with the Austrian sources analysed earlier.)

Pető writes about the outbreak of venereal diseases in 1945.<sup>39</sup> In fact, 1945 was not a boom, but a continuation of growth. There were 1,106 cases of gonorrhoea and syphilis in 1943, 1,851 in 1944 and 2,121 in 1945. The figures fell to 1,758 in 1946 and 1,235 in 1947.<sup>40</sup> <sup>41</sup> The latency might have been much higher. Almost half of the detected venereal-disease sufferers in 1943–44 were “former” or registered or unregistered prostitutes.<sup>42</sup> By 1946–47, the vast majority were registered or unregistered prostitutes.<sup>43</sup> (Reliable data for 1945 are not available.) The increase in venereal diseases in 1943–45 was probably due to the increase in prostitution.

Pető also almost entirely excludes the possibility of love affairs having taken place between Soviet soldiers and Austrian girls. In her opinion, Soviet soldiers were not sexually attractive.<sup>44</sup> These racist allegations contradict even Stelzl-Marx’s frequently quite de-heroising description of Soviet soldiers.<sup>45</sup>

38 “Statistisches Jahrbuch der Stadt Wien: (1943–1945)”, *Wienbibliothek im Rathaus*, zuletzt geändert am 31. August, 2021, <https://www.digital.wienbibliothek.at/wbrobv/periodical/titleinfo/2178314> (Abgerufen am 31. August 2021)

39 PETŐ ANDREA, *Elmondani az elmondhatatlant: A nemi erőszak története Magyarországon a II. világháború alatt* (Budapest: Jaffa Kiadó, 2018), 123.

40 “Statistisches Jahrbuch der Stadt Wien: (1943–1945)”

41 “Statistisches Jahrbuch der Stadt Wien: (1946–1947)”, *Wienbibliothek im Rathaus*, geändert am 31. August, 2021, <https://www.digital.wienbibliothek.at/wbrobv/periodical/titleinfo/2178673> (Abgerufen am 31. August 2021)

42 “Statistisches Jahrbuch der Stadt Wien: (1943–1945)”

43 “Statistisches Jahrbuch der Stadt Wien: (1946–1947)”

44 PETŐ, *Elmondani az elmondhatatlant*, 127.

45 STELZL-MARX, *Stalins Soldaten in Österreich*, 496–524.

Although sources exist that deny or shade the mass crimes of Soviet soldiers, Pető pays them scant attention.<sup>46</sup>

One of Pető's most embarrassing claims is that the Nuremberg Race Laws, which survived in Austria because of the confusing *ex-lex* situation, allowed the abortion of fetuses from "Slavic fathers" even after liberation.<sup>47</sup> It is difficult to judge whether the spirit of the Nuremberg Race Laws survived, but it should be emphasised that they were abolished by the Austrian Provisional Government in its historic proclamation of 27 April 1945 (published on 1 May).<sup>48</sup> Abortions of fetuses resulting from rapes committed by Soviet and other Allied soldiers could not have taken place before mid-May for the medical reasons indicated earlier. *De jure*, the Nuremberg Race Laws could not have had any role in abortions.

Of course, we should not make the mistake of trying to support preconceptions with data where there are data gaps or where the evolution of the data may be influenced by a number of factors. We have to recognise that very serious and thorough archival research and statistical analysis would be needed to investigate most phenomena, and even then we would not necessarily reach clear conclusions. This is a general academic limitation, but, given the current Hungarian political climate, for example, there is no hope that such a cautious and neutral position will be adopted.

Fortunately, however, there is one "theme" about which there is much less uncertainty caused by lack of data.

Andrea Pető makes two emphatic statements about the post-war birth figures. On the Budapest birth figures, she states that "the exceptionally high live birth rate in April 1946 is not necessarily explained by frequent rape by Soviet soldiers."<sup>49</sup> As for the Viennese data, she writes: "The official Viennese data also show that the birth rate started to rise in the 9<sup>th</sup> month after the occupation of the city (...), but there was no large-scale population change here either."<sup>50</sup>

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46 PETŐ, *Elmondani az elmondhatatlant*, 123.

47 PETŐ, *Elmondani az elmondhatatlant*, 110.

48 "Staatsgesetzblatt für die Republik Österreich, Ausgegeben am 1. Mai 1945", *Staats- und Bundesgesetzblatt 1945-2003*, geändert am 29. Juni, 2021, [https://www.ris.bka.gv.at/Dokumente/BgblPdf/1945\\_2\\_0/1945\\_2\\_0.pdf](https://www.ris.bka.gv.at/Dokumente/BgblPdf/1945_2_0/1945_2_0.pdf) (Abgerufen am 31. August 2021)

49 PETŐ, *Elmondani az elmondhatatlant*, 103.

50 PETŐ, *Elmondani az elmondhatatlant*, 105.

Taken alone, the two sentences can be seen as two objective, acceptable statements. However, the author clearly suggests, based on the rest of the book, that the activities of Soviet troops resulted in, among other things, a serious problem: many children were born as a result of sexual relations with them.

Based on the context, the phrase “not necessarily” in the above quoted text has the meaning “probably, but not yet confirmed”, and the interpretation of “in the 9<sup>TH</sup> month” does not require any further explanation.

The birth rates and some demographic correlations in Budapest can be reconstructed fairly well on the basis of the Budapest Statistical Yearbooks and other literature. A limitation, however, is that the last Budapest Metropolitan Statistical Yearbook was published in 1948, covering the period 1944–46, a comprehensive statistical yearbook entitled Statistical Yearbook of Budapest being published from 1957. The examination of some post-war years is rather difficult and beyond our present capabilities. It would be worthwhile to clarify the situation in Budapest in the framework of future, larger-scale research, possibly covering Hungary as a whole, to which this article could contribute.

It is worth noting that the liberation of Budapest on February 13, 1945, and the assumption/experience that the vast majority of rapes occurred during and immediately after the fighting, already casts strong doubt on the fact that 14 months later, in April 1946, the birth rate in Budapest increased as a result of the activities of Soviet troops.

The situation in Vienna can be clearly clarified regarding birth rates. Perhaps the reasons are clear as well.

## VIENNA BIRTH RATES

In Vienna (and Austria in general), which had been divided into four parts, not only was administration restored in a very short time, but also statistical data collection. The Vienna branch of the Austrian Central Statistical Office (*Österreichische Statistische Zentralamt*), which was set up in 1945, continued the work of the Federal Statistical Office (*Bundesamt für Statistik*), which had been temporarily integrated into the statistical organisation of the German Reich (Reich Statistical Office,

*Reichsamt für Statistik*) from 1938 to 1945, with minimal disruption.<sup>51</sup> However, the Vienna Statistical Yearbook 1939–1942 was published only in 1946 and the one covering 1943–45 only in 1948, which, apart from the difficulties of the war, was also due to the manual data processing common at the time. (The next volume of the Vienna Statistical Yearbook was only published in 1951.) That said, many data series—including most of the demographic data series—are available uninterrupted in the years before, during and after the war.

In the first phase of the study, birth rates in Vienna between 1937 and 1956 were examined.<sup>52 53</sup> This time span was chosen based on a number of assumptions/factors, but the main consideration was a hope that the very different periods in the country's history would be reflected in the demographic indicator that is important to us.

In the analysis, we have eliminated the variation caused by the length of each month by analysing the average number of births per day rather than the number of births in each month. The number of live and stillbirths was also included in the number of births, since the effect of possible rape could obviously be reflected in all babies delivered.

The time series plotted in Figure 1 shows at least six structural breaks from a statistical point of view. After the Anschluss (1938), there was a sudden sharp rise in the number of births, which turned into stagnation after the outbreak of the war (1939), followed by a sharp decline from 1944 (when the war had already hit the German-Austrian hinterland very hard), a sharp increase from 1946 (after liberation), a significant decline from 1947 (after the onset of new severe food shortages) and then stagnation in the early 1950s (after the economic situation had

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51 [ohne Autor], "150 Jahre Statistik Wien - Amtliche Statistik im Wandel", *Statistik Journal Wien* 1 (2013): 1–77.

52 "Ältere Ausgaben des Statistischen Jahrbuchs der Stadt Wien", *Stadt Wien*, geändert am 12. July, 2021, <https://www.wien.gv.at/statistik/publikationen/jahrbuch.html> (Abgerufen am 31. August 2021)

53 The yearbooks of the "Statistisches Jahrbuch der Stadt Wien" and "Jahrbuch der Stadt Wien" from 1937 to 1956 will not be referred to separately in the following. All data not indicated by reference are taken from the Vienna Statistical Yearbooks. All data from the yearbooks, which are digitised in image format, were extracted manually, which can obviously be a source of error, but we have tried to ensure the highest possible accuracy. The referenced data series and the main calculations performed on them are available in .xlsx format on researchgate.net, under the authors' publications. The calculations performed in this article are rather trivial in statistics, so no formulae have been provided, but they can be traced in the .xlsx file.

stabilised). All this in twenty years. With such a high number of structural breaks, decomposition methods of time series analysis are essentially useless, and without the analysis of trend, cycle, seasonal component, and random fluctuation, very few scientifically reliable characteristics can be extracted from the time series. One could break the longer time span into smaller sections, but it is clear that the 1945–46 period is split by a structural break.

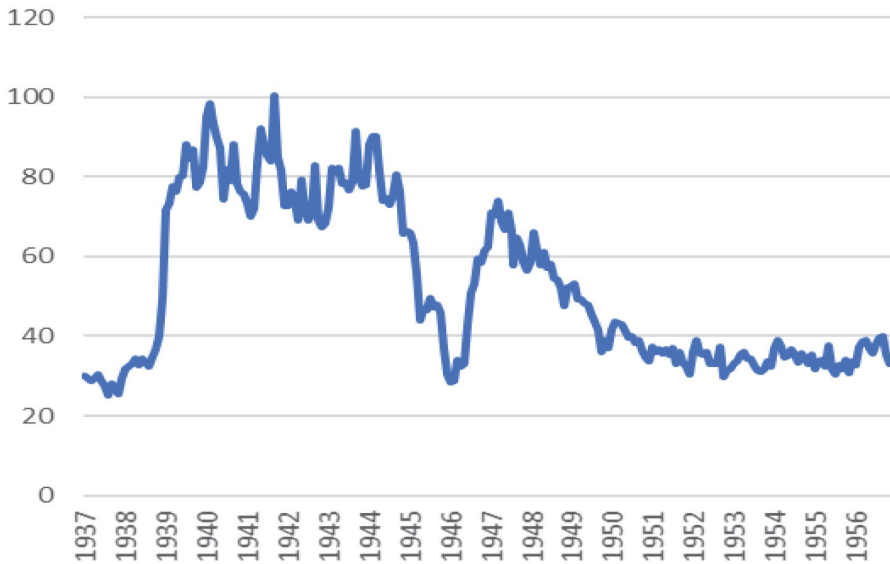


Figure 1. Average births per day (Vienna, 1937–1956)

On both sides of the break, there is a good chance that there is some random effect, which may be related to events during and after the war.

(1) shows the six-degree polynomial trend equation for the time series. A polynomial of higher degree than this would be redundant and cumbersome. The  $R^2$  value of 0.7632 cannot increase significantly for a polynomial of significantly higher degree, and the structural breaks may raise strong doubts about the meaning of the trend calculation anyway.

$$y = 2E-11x^6 - 1E-08x^5 + 3E-06x^4 - 0,0001x^3 - 0,0278x^2 + 2,8675x + 8,4636 \quad (1)$$

where  $x = 1, 2, 3 \dots 240$  (the number of months in the period)

Despite our doubts about the legitimacy of the trend calculation, the hypothesized random effect is illustrated quite well by the trendline plot. (Figure 2)

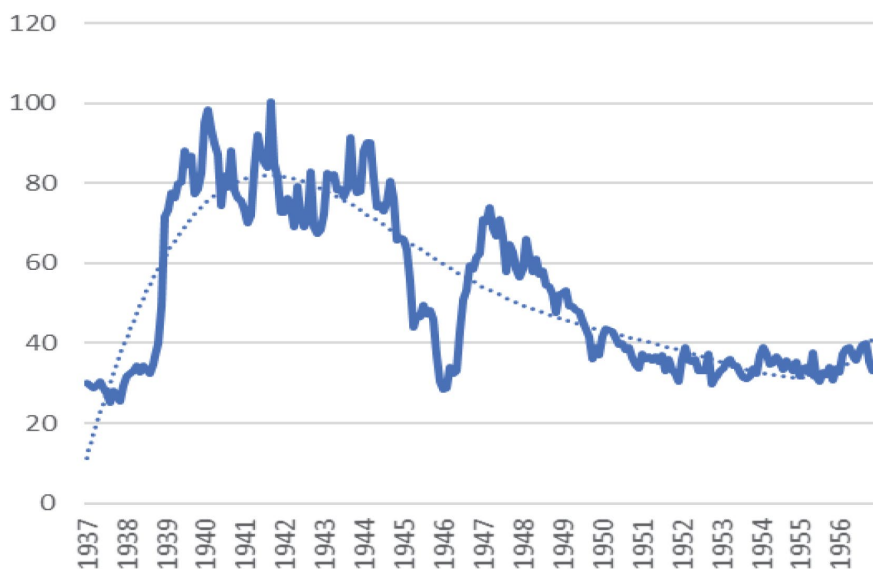


Figure 2. Average daily births and trend (Vienna, 1937–1956)

What could have caused the 1945–46 volatility? Obviously, it is not enough to say that it was the Second World War, the approaching front, or the liberation of the city. We need a more concrete context. But we can say with a fair degree of confidence that it is not the rapes committed by Soviet soldiers that explain the unconventional time sequence over two years, since the Red Army was only present in Vienna from April 1945. The question is whether, over a few months, the Soviet soldiers could have been responsible for the surge in births.

If we accept the assumption that soldiers committed most of their violent crimes during and immediately after the fighting, then, based on the 280-day average gestation period long accepted by the medical profession, we should have seen a breakout in January 1946. If we use the more recently accepted average gestation period of 268 days,<sup>54</sup>

<sup>54</sup> A.M. JUKIC, D.D. BAIRD, C.R. WEINBERG, D.R. MCCONNAUGHEY, A.J. WILCOX, “Length of Human Pregnancy and Contributors to its Natural Variation”, *Human Reproduction* 28, no. 10 (October 2013): 2848–55. DOI: 10.1093/humrep/det297

we should perhaps see some significant increase in the time series in December-January 1945.

However, December and January 1945 were a really low point in the number of births. So Pető's statement quoted earlier, and especially her suggestion, is most certainly not true. Still, the rapes committed by Soviet troops could in principle have caused an increase in birth rates, and perhaps some other factor could have counteracted this, but there is no evidence to suggest that. We do not have reliable data on the total number of (illegal) abortions, for example, but it seems realistic to assume that if there were a significant number of pregnancies due to rape, we should see a significant increase in births between December 1945 and January 1946. But the opposite happened. One might also speculate that Viennese doctors may have disguised abortions as miscarriages, but this should be reflected in the statistics of women's deaths during miscarriages, since abortion was a relatively frequent cause of death for women during this period. However, Table 1 shows that in 1945, the "year of war" for Vienna, fewer women died from spontaneous abortion than in 1943 or 1944.

Table 1. Deaths from spontaneous abortion in Vienna (1943-45)

Cause of death	1943	1944	1945
Spontaneous abortion with puerperal fever ( <i>Kindbettfieber bei Fehlgeburt</i> )	26	32	24
Spontaneous abortion without puerperal fever ( <i>Fehlgeburt ohne Kindbettfieber</i> )	0	5	1

In March 1946, however, there was an increase in births, which was obviously not due to the liberation of the city in April 1945. We believe that these four months, between December 1945 and March 1946, are of great importance in the study of this process, but for the reasons outlined above, it is very difficult to use the time series analysis methods often used. Nevertheless, we can make some contributions to an explanation of the 1946 birth figures.

## MARRIAGES AND BIRTHS

In the circumstances of the time, more than two decades before the sexual revolution, it is reasonable to assume that for most Viennese girls the beginning of an intense sexual life basically coincided with marriage, and the period immediately after marriage more often than average led to pregnancy and then childbirth. In addition, abortion had been severely punished in Austria since 1852 and was only legalised in 1975, completing a liberalisation process begun in 1954.<sup>55 56</sup> We have previously seen that this was temporarily eased for a few weeks in 1945, but we have also assessed the controversial factors involved.

Of course, the evolution of marriage is only one of many factors that shape the data series, and obviously can only affect the birth of the first child. The Vienna Statistical Yearbooks also include the number of marriages by month, so it is possible to examine the correlation between the two sets of data. The correlation of the two series, the daily average of the number of marriages and of the number of births per month, without moving one of the time series, does not make sense, since marriages may have a beneficial effect on births after 9-10 months.

Table 2. Stochastic relationship analysis

9 months of shifting	10 months of shifting
$\alpha = 5\%$ $H_0: r = 0$ $H_1: r \neq 0$ $r = 0.56$ $t_{emp} = 10.26$ $t_{crit} = \pm 1.97$ $H_0$ is rejected. Stochastic relationship.	$\alpha = 5\%$ $H_0: r = 0$ $H_1: r \neq 0$ $r = 0.54$ $t_{emp} = 9.8$ $t_{crit} = \pm 1.97$ $H_0$ is rejected. Stochastic relationship.

55 LEOPOLD BREITENECKER, RUDIGER BREITENECKER, "Abortion in the German-Speaking Countries of Europe", *W. Rsrv. L. Rev.* 17 (1965): 553–568.

56 "Bundesgesetz vom 23. Jänner 1974 über die mit gerichtlicher Strafe bedrohten Handlungen", *Bundesrecht konsolidiert: Gesamte Rechtsvorschrift für Strafgesetzbuch, Fassung vom 01.09.2021*, geändert am 16. August, 2021, [https://www.ris.bka.gv.at/Dokumente/BgblPdf/1974\\_60\\_0/1974\\_60\\_0.pdf](https://www.ris.bka.gv.at/Dokumente/BgblPdf/1974_60_0/1974_60_0.pdf) (Abgerufen am 1. September 2021)

The correlation coefficient  $r$  without shifting the data series is 0.34. However, if the daily average of births is shifted negatively by 9 and then by 10 months, the correlation coefficient  $r$  between the two data series increases to 0.56 and 0.54 respectively. So, the relationship is then stronger than medium. The question is of course whether the relationship is stochastic.

The evolution of the number of marriages and births 9-10 months later is not independent of each other, as shown in Table 2, and the explanatory variable is obviously the number of marriages. Therefore, if there is a spike in the number of marriages, there is a good chance that there will be a change in the number of births 9-10 months later. It is not possible to give a precise value, as the time of possible pregnancies after marriage can vary.

It has been outlined earlier that sophisticated methods of time series analysis are useless in our case because of the structural breaks in the entire time series. In such cases, we have to resort to simpler statistical methods, with limited justification. Even chain indices.

Table 3 clearly shows that the chain index of marriages in May 1945 was the highest in the entire data series—1937-56—and ten months later, in March 1946, the chain index of the daily average of births was the sixth highest in the entire data series (from 239 indices).

Since we have already shown a stochastic relationship, we can establish a realistic concept based on the data. Marriages that were cancelled under wartime conditions, and especially during the Battle of Vienna, were implemented by the Viennese in May 1945 (more likely towards the end of the month, based on the data series), which produced a little jump in births in March 1946 due to the honeymoon period.

Of course, this connection does not necessarily provide a completely reliable explanation of the evolution of the numbers, but it seems likely to be the case. The crimes committed by some Soviet and other allied soldiers may have led to an additional increase, but an analysis of one of the few reliable data sets suggests that the number of sexual crimes committed by Soviet and other allied soldiers may have been much lower than the often-quoted “estimates” suggest.

Table 3. Daily average of marriages and births per month in Vienna (1945–46)

Year	Month	Average daily number of marriages	Rank of the daily average of marriages in all months (1937–1956)	Chain index of daily average number of marriages	Rank of the chain index in all months (1937–1956)	Daily average of births	Rank of the daily average of births in all months (1937–1956)	Chain index of daily average number of births	Rank of the chain index in all months (1937–1956)
1945	January	23.1	230	0.59	231	66.0	79	1.00	121
1945	February	23.3	228	1.01	114	63.4	83	0.96	169
1945	March	19.4	237	0.83	191	55.5	98	0.88	227
1945	April	18.2	240	0.94	146	44.1	120	0.79	238
1945	May	49.1	88	2.70	1	46.9	116	1.07	45
1945	June	36.6	170	0.74	211	46.5	117	0.99	124
1945	July	23.2	229	0.64	226	49.5	107	1.07	44
1945	August	20.5	235	0.88	173	47.4	115	0.96	176
1945	September	25.4	221	1.24	46	48.1	112	1.02	96
1945	October	23.4	227	0.92	155	45.8	118	0.95	184
1945	November	26.0	218	1.11	82	37.1	148	0.81	237
1945	December	35.4	176	1.36	29	30.3	225	0.82	236
1946	January	23.0	231	0.65	225	28.5	235	0.94	199
1946	February	30.1	201	1.31	38	28.7	233	1.01	104
1946	March	38.7	157	1.28	41	34.0	184	1.19	6
1946	April	43.2	126	1.12	80	32.5	207	0.96	175
1946	May	43.2	127	1.00	120	33.1	197	1.02	90
1946	June	50.4	77	1.17	67	43.0	124	1.30	2
1946	July	44.0	119.5	0.87	175	50.8	106	1.18	7
1946	August	52.1	64	1.19	62	53.1	102	1.04	70
1946	September	50.8	75	0.97	126	59.5	89	1.12	23
1946	October	56.3	48	1.11	83	58.5	91	0.98	132
1946	November	49.1	87	0.87	174	61.4	87	1.05	57
1946	December	55.7	50	1.13	76	62.5	85	1.02	94





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