REVIEW ESSAY


**THE FOUR HORSEMEN OF THE APOCALYPSE**
BY WALTER SCHEIDEL

Abstract

This article constitutes a review of the book “The great leveler” written by Walter Scheidel. We refer to the issue of constructing theories and pointing out the regularities in history. We present the scientific background of the author, as well as his inspirations from other publications of a similar kind, notably “Capital in the twenty-first century” by Thomas Piketty. We analyse the elements of Scheidel’s thesis that the levelling of income inequalities within the framework of states may come about only from violent shocks: mobilization warfare, transformative revolution, state failure, and lethal pandemics. We comment on each of these factors, offering a critical approach to the author’s interpretation and directions for further research. We also argue that for the studies of income disparities the estimation of data about the middle class is
crucial, as the lack of or small scope of it is the most dangerous for domestic stability. The estimations of the top 1% of the richest means less in this context. We also propose a greater focus on the impact of welfare politics in democratic states. However, we highly appreciate the author’s thoroughness in compiling such a great amount of data as well as his logical argumentation, which make his work valuable, convincing, and intellectually stimulating.

**Keywords**: violent shocks; inequalities; economic history; Walter Scheidel; Thomas Piketty

If history only evoked facts from the past it would not be a science. Hence the main purpose of it should be explaining the studied phenomena and pointing out the regularities. For this reason it is impossible to accept the opinion of the magnificent writer Leo Tolstoy, who claimed that history had not managed to build its own concepts and generalizations, a view which, according to the great philosopher Isaiah Berlin “if true, would abolish history as such.” [Berlin 1993: 35].

From time to time historians have attempted to form some general theories which could present the consistencies in different epochs and which could indicate the similar behaviours and various social phenomena in different epochs. One of the most spectacular attempts (although unsuccessful) was made in the 19th century by Karl Marx. Also a few noteworthy concepts have been formulated in the 20th and 21st centuries. They sometimes covered long periods1 and they tried to introduce a linear vision of the past. One such wide-ranging study was presented by historian Arnold Joseph Toynbee. In his ten-volume “A study of history” he employed enormous empirical material to create a complete, linear and coherent historical concept. He also used analyses from different fields of science like philosophy and psychology and gave examples from literature or the history of religion [Toynbee 1934].

In his study, this British historian not only covered the studies of the past, but also referred to the situation of his time and formulated a few predictions. A group of followers, using a similar approach, released their works at the turn of the millennia. Among them, worth mentioning are the works of: Francis Fukuyama (The end of history and the last man); Samuel Huntington (The clash of civilizations and the remaking of world order); Benjamin Barber (Jihad vs. McWorld) and Daron Acemoglu and James A. Robinson (Why nations fail? The origins of

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1 Fernand Braudel – the guru of the French Annales School – called it “longue durée”.

power, prosperity and poverty). The latest publication of Austrian Walter Scheidel can definitely be included in this list of excellent scientific bestsellers.

To disclose entirely our approach and attitudes to Scheidel’s work we should declare that we both graduated in history, but later we transformed our academic careers into international relations and economics, respectively. During our study of this voluminous book we asked ourselves repeatedly: Does this concept really work? It was a great challenge to us as readers to follow all the author’s arguments and a difficult task to verify his main hypothesis.

Scheidel, whose career ran through both European (Vienna, Graz, Innsbruck, Cambridge, Paris) and American (Ann Arbor, Chicago, Stanford) universities, is first of all an Ancient historian, specializing in the economic history of the oldest epochs. Among his other publications, he was a co-author of the popular The Cambridge economic history of the Greco-Roman world (2007) and co-editor of the oft-cited The ancient economy (2002). He also published excellent proven books: Death on the Nile. Disease and the demography of Roman Egypt (2001) and Rome and China. Comparative perspectives on ancient world empires (2009). His newest book, with its brave hypothesis about the main reasons behind levelling income, has been reviewed by many great publicists and specialists (including economic historians like Gregory Clark, Ian Morris, and Aaron Reeves).

The real inspirational book for Scheidel was Capital in the twenty-first century by Thomas Piketty, published in 2013. The French economist tried to discover general laws of capitalism. He collected big data from the 19th to the 21st centuries to show that the concentration of assets has been growing since the beginning of the industrial revolution. Following his detailed statistical observations, Piketty set out to prove the fundamental principle of capitalism. He states that the net real rate of return on capital (in fact real interest rate) exceeds the growth rate of the Gross Domestic Product. This causes an increase of the level of the inequalities of income and assets in societies. Piketty did not omit the problem associated with the levelling the incomes. For instance, he states that the two World Wars caused a decline of capital stock in relation to income. This was in part the result of the physical destruction of assets of the economies which were engaged in the global conflict, but also (even mainly) it was a consequence of the collapse of investments in financial assets and the low rate of savings. Besides, he adds that the decline of capital stock and the levelling of incomes were possible because of the changeable legal and institutional systems.2 The critics of Piketty’s theory

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2 According to Acemoglu and Robinson this generalization does not suit to Sweden and South Africa. Although Sweden was neutral but strongly connected with both parties of the conflict,
claim that he ignored institutions, politics, and the flexible nature of technology [Acemoglu, Robinson 2015: 24]. “His politics assumes that governments can do anything they propose to do. And his economics is flawed from start to finish. It is a brave book. But it is mistaken.” [McCloskey 2014: 112]. We should add that Piketty not only concentrates on economic history, but also offers a vision, which includes the imposition of a steeply progressive global tax on wealth. According to some critics, this vision of continually increasing economic inequality due to the growing accumulation of capital is a dystopia [Mankiw 2014: 2].

Scheidel cites Piketty many times. Without doubt *Capital in the Twenty-First Century* pushed him to accelerate his attempts to publish his own work. Like the French economist, the work of the Austrian historian covers both economic history and refers to the contemporary situation. There are thousands of examples, from the pre-civilization era until the current 21st century economic history of the US. The key statement appears at the very beginning of the book: “(...) overall the degree of Roman income inequality was not very different from that in the United States.” [Scheidel 2017: 20]. The inequalities are a fact. The growing inequalities among societies and inside societies are still being investigated. But Scheidel’s goal is not only to show examples of the disparities, but also to present cases from global history when the disparities started to shrink. He uses a great metaphor to introduce his main idea, claiming that there are four main reasons – the ‘four horsemen’ of levelling (referring of course to the four horsemen of the apocalypse) – which decide about narrowing the gap between the rich and poor. According to Scheidel, the greatest cause of levelling incomes comes from violent shocks: mobilization warfare, transformative revolution, state failure, and lethal pandemics [Scheidel 2017: 22].

In briefly describing the particular reasons for the levelling, Scheidel claims that there are specific nuances in each case. The world wars in the first half of the 20th century were total conflicts which influenced the changes in incomes. They played the role of “great compressors” because they mobilized millions of people. What’s more, the civilians were also severely affected. But not all wars have destructed inequalities. For example, domestic conflicts were not usually enough to reduce them.

Revolutions constitute another “great leveler”, especially those with extraordinary violence, which usually manage to change the legal system, and in particular property laws. These revolutions were sometimes connected with wars, so they

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South Africa provided army and resources. The economies of pointed states did not experience any direct destructions of the capital stock [Acemoglu, Robinson 2015: 19].
enhanced the effects of each other as far as the levelling of inequalities is concerned. Another event which diminishes the disparities in incomes in a society is the failure of a state, which is most often the result of wars and revolutions. The common feature of these ‘horsemen’ is the fact they rely on violence to move the wealth from one group to another. The last ‘horseman’ is a pandemic. Scheidel considers only those which caused large numbers of deaths, changing the social relations. The historian indicated that all the “great levelers” could act separately or in twos, threes, or altogether.

Of course, these four horsemen were not the only events which reduced dispersions of income between the rich and poor, but other factors mentioned have a mixed record in history and usually brought about only limited changes in income disparities. Among them Scheidel distinguishes macroeconomic crises, but they usually have had only short-time effects on income disparities. It’s worth noting that he also considers democracy as a phenomenon which, based on its typical economic and political features, can either reduce or increase the disparities. He admits that “[a]lthough the interplay of education and technological change undoubtedly influences dispersion of incomes, returns on education and skills have historically proven highly sensitive to violent shocks. Finally, there is no compelling empirical evidence to support the view that modern economic development, as such, narrows inequalities. There is no repertoire of benign means of compression that has ever achieved results that are even remotely comparable to those produced by the Four Horsemen.” [Scheidel 2017: 25]. In that sense he agrees with Piketty, who doesn’t believe that a free market can create favourable conditions for flattening the income disparities. Both agree that the liberal world lost the fight against poverty. Scheidel quoted president Barack Obama, who pointed out that problem is not that the incomes of Americans are so widely unequal, but rather that there are too many poor people [Scheidel 2017: 34].

In the well-reasoned introductory part of his book Scheidel acknowledges that economic disparities are not the one and only type of inequality in societies. But since he could not include all the aspects, he decided to concentrate on the distribution of material resources within societies, excluding the problem of inequalities between countries. He also presents the tools for the measurement of disparities. He uses the most basic metrics: the Gini coefficient and percentage shares of total income, also referring to ratios between shares or particular percentiles of the income distribution [Scheidel 2017: 27–28]. He points out some methodical constraints, especially with respect to data before the 19th century. The income inequalities in antiquity and the Middle-ages, and even in the first three centuries of modern times, must be estimated with a high level of approximation, based on
limited data and even on archaeological findings. However, Scheidel managed to collect an impressive amount of knowledge and data about tax records, which enabled him to reconstruct the real wages, the wage ratios, and the GDP levels. Especially after the release of Angus Maddison’s rich calculations, economic historians have had a lot of material for analysing inequalities. In the end of the introductory part Scheidel reveals why he wrote the book. He wanted “(...) to show that the forces that used to shape inequality have not in fact changed beyond recognition.” [Scheidel 2017: 37].

Great disequalisation began after last Ice Age and “(...) over time has been the result of a combination of three factors: the relative importance of different classes of assets, how suitable they are for passing on to others, and actual rates of transmission” [Scheidel 2017: 54]. The historian has doubts about the significance of particular factors, but admitted that “(...) to the extent that state formation introduced steep and stable hierarchies into societies with significant surpluses, inequalities of power, status, and material wealth were bound to grow. Even so, a growing consensus now holds that organized violence was central to this process.” [Scheidel 2017: 59].

Scheidel often uses popular but advanced economic terms and illustrations. On several occasions he used the Lorenz curve, which can show us the disparities in income and wealth. His interpretation of this tool is very convincing. He states that: “Most of the Lorenz curves we could plot on the basis of these guesstimates would resemble hockey sticks rather than crescents, pointing to sharp disparities between a select few and a large majority at or not far from basic subsistence. With a few exceptions, such as the ancient Greeks and the settlers of colonial North America.” [Scheidel 2017: 74–75].

Scheidel’s opus magnum consists of seven parts, including four main chapters which cover the four horsemen: war; revolution, collapse, plagues. The last two parts include alternatives – an analysis whether other factors could have an impact on inequalities and the future of levelling. The author also constructs counterfactuals – he tries to answer the question what would have happened if the “four

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3 Scheidel cited the “Maddison project” several times: http://www.ggdc.net/maddison/maddison-project/home.htm http://www.ggdc.net/maddison/maddison-project/home.htm[accessed on 25.07.2017]. It should be added that Maddison’s excellent works [Maddison 2000, Maddison 2001, Maddison 2007] were also rather useful for measuring inequalities between the states.

4 However, according to Bitros and Kyriazis the Gini coefficient for Athens in 4 BC was higher than for the Roman Empire in 1 AD. The Lorenz curve for Athens is presented in: Bitros, Kyriazis 2017: 134. Scheidel and Friesen estimated a higher Gini coefficient for Roman empire: Scheidel, Friesen 2009.
“The Four Horsemen of the Apocalypse” had not appeared. This is not typical dystopia, but rather alternative history. However we do not want to describe particular parts of the book here, but rather focus on the argumentation of the author in a few selected problem areas.

We wonder what would be Scheidel’s opinion on the observation by the famous Polish sociologist Zygmunt Bauman’s of a decreasing trend in inequality between nations with a simultaneous increase of it within one country, which is often measured using the Gini coefficient [Bauman 2012: 36]. However, neither the first part of the thesis nor the second finds its proper justification in most economic research. One may here seriously debate the calculation methodology. Bauman’s thesis is refuted by neoliberal economist Deepak Lal, who tried to break the stereotype of increasing disparities between rich and poor countries. He proved that at least since the 1980s world poverty has decreased [Lal 2006: 135]. According to Lal, the diminishing of poverty in the developing world began as a result of Chinese reforms at the end of the 1970s, the liberalization of the Indian economy in 1991, and as a consequence of the transformation of planned economies into market economies in Latin America. The only region where poverty has actually increased in recent decades is Africa, which has been struggling with serious governance problems and has failed to fully integrate with the world economy.

Scheidel should consider Lal’s well proven outcomes when claiming that the thesis of the increase of inequality within particular countries cannot be defended effectively. Lal’s thesis is also in contradiction to Scheidel’s statement that development does not significantly influence the level of disparities on a global scale. Even if in the 1990s such countries as the USA, China, Great Britain, Nigeria, and in particular Russia and the countries of Eastern Europe noted an increase in the indices of national inequalities, at the same time Sweden, Brazil and Mexico noted decreases in the indices, and in the four great economies of Asia – India, Indonesia, South Korea and Vietnam – there was no tendency towards an increasing inequality. The more balanced and scientifically proven conclusion is thus Lal’s: while some countries developed in the next stage of globalisation, other states experienced a greater or lesser regression [Lal 2006: 137–139]. From Scheidel’s book we can derive the conclusion that in fact societies produce inequalities automatically. While they can be enhanced by external

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5 It depends on which countries are compared, the same in two different periods or a given number of the richest and poorest states in the same periods.

6 Lal explains where the misconceptions about the increase of the world income differences come from. He claims that they stem from a lack of reliability in the research at the lower level and an incorrect use of statistics applied by the World Bank. See more: Matera, Matera: 2011.
factors, especially in the era of globalisation, nevertheless the great disparities did not appear in the United States after the war – we can spot them no sooner than in the 1970s. This was the time when the American predominance in the world economy was weakened for many reasons. But we could still observe a peaceful path to levelling the inequalities, which we presume would be the position of hegemon – the initiator and guardian of the international system. This of course is not available for all countries, but still it is not the result of violent change. One can argue it was a result of the WWII. In any case the impact of the hegemonic position itself deserves further research.

Scheidel also admits that there are the cases of noteworthy decreases in income disparities in Latin American countries at the beginning of the 21st century. He presents these as exceptions to the rule, which are quite recent and may be short-lived. But in fact we cannot predict the development of the situations in many regions, e.g. the impact of the economic initiatives of China for South-East Asian countries, or for Africa. We also find it quite surprising that Scheidel categorises the welfare state reforms in Europe (at the beginning only in the Western part of it) as the outcome of WWII. We totally agree that this change occurred because of the growing popularity of communist parties after the global conflict, the outbreak of the Cold War, and the necessity of creating alternative development paths for those societies which were seriously damaged by the war. But the rivalry between the free world and the communist bloc was over in 1989, and since then we have witnessed the emergence of brand new initiatives in this field which are introduced in a peaceful environment, including within the framework of the European Union. Even in the United States sound initiatives for change have been launched, e.g. the so-called ‘Obamacare’ Act aimed at providing universal health insurance. Although it is currently contested by the Donald Trump administration and the Republican majority in Congress, it will be difficult to overthrow it completely. These examples, and we can evoke many others, show that Scheidel’s assertion that democracy does not have an impact on reducing inequalities is not accurate. We can surmise that this is because his focus on the richest 1%. As a result, the role of the middle class, and in particular its size and significance in particular countries, is neglected, which in our opinion makes the whole picture of inequalities and their consequences for societies rather blurred. This seems quite surprising, as the author underscores the role of the political factor in the inception of inequalities (including in prehistoric times, which is absolutely fascinating), but underestimates it in the period after WWII. It is also worth emphasising that welfare programs serve the society best in democratic
systems. In authoritarian or totalitarian systems, they are usually used as tools to achieve public support and weaken the opposition. This petrifies oppressive rules.

It’s hard to deny that global conflicts involving mass mobilization diminish inequalities. On the other hand, when we investigate the particular cases of their outcomes, we can observe specific results. If we consider the situation of the United States during and just after WWII, we can observe many factors which could add to the growing inequalities in the victorious country, whose territory was not directly affected by the warfare. Scheidel explains that the administration of Franklin Delano Roosevelt intervened in the economy to the greatest extent. He imposed huge taxes on the wealthiest, froze prices, practiced takeovers of companies, etc. Yet the state control was not complete. The great companies took advantage of the war demand and made enormous profits, e.g. Lockheed [Hartung 2012] – they even traded with Nazi Germany [Talbot, Horn 2014]. We can postulate that this could add to inequalities.

The impact of revolutions on levelling is also quite obvious, especially when they are communist in character, as in Russia, China, North Korea or Cambodia. Besides the decrees of new authorities which deprived the owners of their property (land, factories, etc.), their violent character also led to physical elimination of the richest, at least those who had not managed escape abroad. The factor of the brutality of the changes is very important for Scheidel. In this context it would be interesting to compare the income levelling in the Soviet Union and in the Eastern European countries which were under Soviet control after WWII. The character of the changes in the system were of course not peaceful in the Eastern European countries, but the extent of brutality was certainly lower than in the USSR or China. Yet the level of inequalities was quite low. For example, the Gini index for Poland in the 1980s was between 0.24 and 0.26 [Brzeziński, Jancewicz, Letki 2013: 12], which was very similar to that of the USSR [Scheidel, p. 247]. It would be very interesting to trace the reasons for these outcomes.

The power of levelling brought about by the collapse of a state is illustrated by examples mainly from ancient times, but the more contemporary case of Somalia is also analysed. This was an example of a so-called ‘vampire state’, where the ruling elites gathered enormous wealth and neglected the rest of the society. It is thus no wonder that the collapse of the authorities and the end of discrimination against the rural communities contributed to the diminishing of inequalities. Scheidel admits that contemporary cases of the total collapse of a state are very rare, and rather temporary in nature. We suggest it would be interesting to study instances of so-called “dysfunctional states”, where the authorities are not able
to control their territories and to bring to life the rules of law they established [Ottaway 2006: 189–190].

The impact of deadly epidemics on the levelling of inequalities is very well documented and should not evoke any doubts. Fortunately, the examples come from the past. As Scheidel notes, although lethal diseases also appear from time to time today, the reaction of international organizations which deal with such issues, as well as those of particularly well-developed states, is very rapid, which enables us to suppress most pandemics in the bud. Even if the people have not found the cures for some of them, their dispersion can still be limited.

Finally, we can ponder the existence of a “Fifth Horseman of the Apocalypse”, namely natural disasters. Scheidel mentions them, but rather as a factor enhancing the main leveller (for example, when he describes the collapse of the Hittite empire around 1200 BC he refers to earthquakes and droughts). We can suppose that they were probably more important in the remote past. Nowadays, in highly developed societies the results of natural catastrophes can usually be ameliorated quite quickly, or even prevented. The situation is quite different in the poor countries, which in this regard could be compared to the less advanced states in ancient history. In many cases natural catastrophes can claim millions of victims. By ‘victims’ we mean not only those who lost their lives, but also those people who were hit in other ways by the catastrophe (e.g. physical injuries or loss of their properties). We can evoke the examples of the great floods in China in 1839, when between one and four million people perished, or in 1887, with a similar number of victims.

We could also examine cases from the recent past, namely the effects of the tsunami of 2004 which hit mainly Indonesia, Sri Lanka, India, and Thailand, as well as the earthquake which occurred in Haiti in 2010.

As far as the tsunami is concerned, we do not have complete data concerning the Gini Index from Indonesia and India to compare the situation just before and after the disaster. However, we can observe the changes in Sri Lanka – where the Gini coefficient was 40.96 in 2002 and dropped to 40.25 in 2006, and to 36.39 in 2009. In Thailand the changes were also significant: from 43.54 in 2004 to 39.76 in 2007 and 37.46 in 2011 [data.worldbank.org]. We can also state that the tsunami definitely had a mass effect: the death rate was 200,000 in Indonesia, 38,000 in Sri Lanka, 16,000 in India, and 11,000 in Thailand. In these four countries the number of injured was also significant – 100,000; 17,000; 6,000; and 8,000, respectively. We should also consider the material impact, which added to catastrophic outcomes of the tsunami. The economic losses estimated just after
tsunami were: for Indonesia – 4.451 bln USD; for Thailand 2.198 bln USD; for India – 1.124 bln USD; and for Sri Lanka – 1.454 bln USD [Rego 2006].

In case of Haiti, three million people were badly affected by the earthquake, among them as many as 300,000 may have lost their lives. The total economic loses were as high as 7.8 bln USD (while the Haiti GDP was 11.9 bln USD in 2009) [University of North Carolina 2013]. However, we cannot observe the diminishment of inequalities as measured by Gini index, mainly because of the gap in the data gathered by the World Bank. We know that in 2001 the Gini index for Haiti was 59.48, while the next calculation, which places it at the level of 60.79, comes from 2012 [data.worldbank.org]. Besides, as Haiti is one of the least developed countries in the world, we can assume that the disaster impacted mainly poor people (about 80% of its population lived below the poverty line), and that this country is also one of the most inequitable ones in the world [Barton-Dock 2014]. Maybe the above-mentioned events cannot be compared with the Black Death plague from the 14th century with respect to their impact on reducing inequalities of income, but still they should be taken into consideration in future research on this topic.

To conclude our review of Scheidel’s *opus magnum*, we should underscore that in the era of the ‘global village’ there is a growing level of envy not only between individuals and societies, but also between countries. The potentially deepening disparity between rich and poor states would not have such social consequences if the people living in impoverished states did not have the opportunity to ‘see what it’s like’ to live in the ‘better world’. Citizens of developing countries can follow the life of the rich on their TV screens or smartphones, not to mention often having friends or relatives abroad with whom they are in contact. This not only frustrates them but also evokes resentment, which may lead to the reinforcement of extreme behaviours on the part of the citizens of poorer countries [Dzionek-Kozłowska, Matera 2015: 32]. For this reason the disparities between countries in the globalized world may be worth analysing even more than the disparities within one country (provided they are not too striking). Concentrating only on top 1% of the wealthiest is not good enough. In our opinion the standard of living of the richest is not so much important as it is perhaps annoying for the rest of the society. Income inequalities are most dangerous for domestic stability in the absence of a robust middle class. The top 1% means less in this context. And in our opinion the ways of building a more sustainable society (as far as the distribution of income is concerned) can be achieved by peaceful means. It is also
worth noting that the effects of levelling brought about by the “four horsemen” are not durable, especially when we calculate the human costs of the changes.

Scheidel presents a pessimistic view: according to him people are not able to overcome excessive inequalities without using violence or experiencing an unfortunate occurrence like a plague, i.e. some form of *force majeure*. According to the Austrian historian this thesis is strengthened by the interdependence of political power and economic success, which can be traced from the past (the excellent example of Chinese Empire) up to contemporary times. Scheidel’s vision provokes the question whether it is possible to create an equal society and whether we really want to do so. Scheidel also cannot answer what is the optimal level of inequality which should or can be pursued. It is obvious that a “zero Gini index” is unrealistic and unthinkable. Basically, the aim of those governments which care about the well-being of their citizens is to offer assistance for the poorest, excluded, disabled, and socially maladjusted. To implement this, the money must come from the taxes paid by the middle class as well as the richest stratum. Besides, as Scheidel has shown, the costs of achieving a significant diminishing of disparities are enormous. At the end of his book he states that: “History does not determine the future. Maybe modernity really is different.” [Scheidel 2017: 478]. But we can sense he is rather sceptical about this, as he adds: “(…) peaceful policy reform may well prove unequal to the growing challenges ahead. But what of the alternatives? Be careful what you wish for.” [Scheidel 2017: 478].

The value of this book also lies in its analysis of the particular factors which produce or reduce inequalities in different regions of the world. Thanks to that we can see that the level of the inequalities depends on many factors: culture, the political system, the economic policy of the governments (particularly the degree of their intervention in the free market), the quality of the civil society, geopolitical circumstances, etc. There are many inspiring findings, e.g. the positive impact of the great military conflicts on the level of democracy, especially franchises and the strengthening of trade unions. We have to express our admiration for the enormous amount of collected data, as well as the logical creativity in their interpretation when they are incomplete (as well as Scheidel’s brilliant conclusions derived from archaeological findings). In this context we have to also appreciate his scientific fairness – every time Scheidel cannot prove his hypothesis, or the outcomes of his research are at odds with his original assumption, he consistently admits it. His great book is a source of outstanding knowledge, well proven, with original conclusions, and provides inspiration for discussion. To sum up, we have to state that Scheidel’s theses are convincing, with the few reservations we have pointed out. But they tend to postulate a dilution in the scope of research in this field.
REFERENCES


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CZTEREJ JEŹDZCY APOKALIPSY WEDŁUG WALTERA SCHEIDELA

Streszczenie


Słowa kluczowe: gwałtowne wstrząsy, nierówności, historia gospodarcza, Walter Scheidel, Thomas Piketty