Ages of Discord
A STRUCTURAL-DEMOGRAPHIC ANALYSIS
OF AMERICAN HISTORY

Peter Turchin

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Is America headed in the wrong direction? An increasing proportion of Americans are saying “yes”. For what it’s worth, the subjective mood of gloom (and even doom) is buttressed by a variety of data trends—too many for comfort.¹

Inequality of both income and wealth has been increasing in the US since the 1970s. As a result, there are many more wealthy Americans—the number of multimillionaires quadrupled between 1983 and 2007. At the same time, the real (inflation-adjusted) wage of American men today is lower than 40 years ago. Today, median-wage earners have to work twice as many months to earn the price of a median home, compared with 30 years ago. Between 1999 and 2015, the suicide rate rose by 24 percent. Things are so bad that the life expectancy of middle-aged, white Americans is declining—a shocking statistic in a modern postindustrial country not at war.

Signs of government dysfunction and gridlock abound. The effects of rampant political polarization among the political class are particularly visible in the Senate, which has been inundated by a wave of filibusters. Whereas during the 1960s nearly all judges nominated for US District Courts were confirmed by the Senate, today half of the nominations are rejected. In 2016 the intransigent Senate refused to consider the President’s nominations for the Supreme Court, so currently (as of summer of 2016) we have only eight supreme justices.

The American infrastructure is fraying, the politics are becoming more poisonous, and the trust in government has plummeted. On top of this, there is an epidemic of domestic terrorism, although it is not often acknowledged as such by the media or political elites. Every year, greater numbers of Americans, armed with guns, go on shooting rampages killing strangers and passers-by. The incidence of such indiscriminate mass murder has increased twentyfold over the past 40 years, and nobody can explain why. No wonder that, according to the latest NBC/Wall Street Journal poll, 70 percent of Americans think that “things are off on the wrong track”.

Troubling trends of this kind are constantly discussed by politicians, public intellectuals, and social scientists. But most commentators see only a small slice of the overall problem. Indeed, what do increasingly frequent

¹ All data trends mentioned in the Preface will be discussed and referenced in the main body of the book.
shooting rampages have to do with the polarization in Congress? Or falling life expectancies for large segments of the American population? Is there a connection between too many multimillionaires and more filibusters in the Senate?

In this book I will argue that the trends listed above, and many others, are indeed interrelated. Analysis by my colleagues and me of historical states shows that complex, large-scale human societies tend to go through cycles of alternating integrative and disintegrative phases. Long periods of relative equity, prosperity, and internal peace are succeeded by periods of inequity, immiseration, and political instability, frequently ending in state collapses, revolutions, and civil wars. Each of the “secular” phases, integrative and disintegrative, unfolds over several human generations. The typical period of the overall secular cycle is around two centuries, although there is a lot of variability, depending on the type of society in question, starting conditions, and chance events.

What is particularly relevant to the questions with which I started this Preface, is that while post-crisis dynamics can take many routes, the pre-crisis periods tend to have the same characteristic features, shared across many societies and even different historical eras. The American polity today has a lot in common with the Antebellum America of the 1850s; with Ancien Régime France on the eve of the French Revolution; with Stuart England during the 1630s; and innumerable other historical societies that went through integrative/disintegrative cycles. Can it really be true that the troubles of our days are not so new, and many historical societies experienced them previously? I will marshal empirically supported theory and a lot of data to show that this is, indeed, the case.

However, unlike historical societies, we are in a unique position to take steps that could allow us to escape the worst. Societal breakdown and ensuing waves of violence can be avoided by collective, cooperative action. My goal is to present in this book the best current understanding of why political violence in states waxes and wanes in long cycles. This understanding is encapsulated in what has become known as Structural-Demographic Theory (SDT), whose empirical adequacy has been tested on a number of historical societies. As we shall see in this book, the SDT helps us answer why the various trends mentioned earlier changed direction from favorable to unfavorable in America around the 1970s. Such understanding is the key to developing reforms that would reverse these negative trends, and move us to a more equitable, prosperous, and peaceful society.
Acknowledgments

I would like to thank Radek Szulga, Ross Hartshorn, and Jim Bennett, who read and commented on a complete draft of the manuscript. Over the years, I have profited from many discussions with my colleagues. Here is an incomplete list (please forgive me if I have left you out): Mark Ames, Paul Gilje, Herb Gintis; Jim Bennett, Kevin Feeney, and the rest of the Seshat crew; Andrey Korotayev, Sergey Nefedov, and other members of the Russian Cliodynamics community; and my colleagues in the Evolution Institute: David Sloan Wilson, Jerry Miller, Joe Brewer, and Robert Kadar. I’d like also to thank Alexander Dibrov, MD, for drawing my attention to data on the overproduction of medical degrees (Figure 13.3).

Many years ago, when I was not yet sure that I should pursue this project, Jack Goldstone, the father of the Structural-Demographic Theory, gave me the encouragement I needed to start me on this long road. As I wrote, I revisited his magisterial *Revolution and Rebellion in the Early Modern World* many, many times, and never failed to be impressed by the prescience of his book in respect of subsequent developments in structural theories of revolution and internal war.

During the preparation of this volume for publication, I have been ably helped by a talented team: Agathe Dupeyron, who chased down many hard-to-find facts and bits of data; Simon Reynolds, whose editing skills made the manuscript immeasurably more readable; Greg Laszczyk, who typeset it; and Marta Dec, who designed the cover.

As always, my greatest debt of gratitude is to my wife Olga, whose support and encouragement sustained me during the long (but, thanks to her, never lonely) years of working on the book.
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Part One
A Theoretical Introduction
PART ONE

A Theoretical Introduction
Introduction: Human Societies Are Fragile

At 4:30am on April 12, 1861, Confederate batteries opened fire on Fort Sumter, located on an island in the middle of Charleston harbor, South Carolina. After 34 hours of bombardment, the commander of the U.S. troops defending the fort, Major Robert Anderson, gave the order to strike the flag: the first battle of the American Civil War was over. Curiously, there were no casualties, a strange beginning for the bloodiest war in American history.

That this war happened at all is itself strange. Both sides spoke the same language and professed the same religion. There was no shortage of food or land, with a huge and lightly populated Western frontier ready to absorb millions of settlers. Even stranger, it happened in a democracy. For the first 80 years of the American polity, its democratic institutions had sufficed to resolve the inevitable clashes of interests found in any large society. Political crises were defused within the constitutional framework—in other words, without violence. In 1861, however, these institutions failed catastrophically.

By this point, the American political elites had lost their ability to cooperate in finding a compromise that would preserve the commonwealth. Instead of defusing the crisis, popular elections in which Abraham Lincoln won the presidency triggered the conflagration.

What is particularly astounding is how myopic the American political leaders and their supporters were on the eve of the Civil War, especially those from the Southern states. They gleefully wrecked the Union, without realizing what a heavy personal cost that would mean for most of them.

When news of Fort Sumter's surrender reached Richmond, Virginia, wild celebrations filled the streets and a crowd took down the United States flag from the capitol, replacing it with the Confederate one (Epperson 2005). Within days, Virginia left the Union and joined the Confederacy of the seven deep-south states that had seceded before Fort Sumter. Similar events took place in North Carolina and Tennessee. One wonders what they thought of...
Introduction: Human Societies Are Fragile

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their initial eagerness to join in the conflict four years and 620,000 corpses later. In the 1860s, Americans learned that large-scale complex societies are actually fragile, and that a descent into a civil war can be rapid.

Today, 150 years later, this lesson has been thoroughly forgotten. As I discuss in Chapter 11, the degree to which cooperation among the American political elites has unraveled during the past decade is eerily similar to what happened in the 1850s, the decade preceding the Civil War. The divisive issues are different (although the fault-line between the North and the South endures), but the vehemence and the disregard for the consequences of failing to compromise are the same. Of course, nobody expects another Civil War. But the political leaders of antebellum America also could not have imagined in their wildest dreams the eventual consequences of the choices they made during the 1850s. As another historical example, it is doubtful that when the Assembly of French Notables rejected royal proposals for the state budget in 1788, they intended to start the French Revolution, in which many of them would lose their heads to the guillotine. Just because we cannot imagine our actions leading to disaster, it doesn’t mean that such a disaster cannot happen.

Perhaps human beings have become more civilized in the past two centuries, as the psychologist Steven Pinker argues in The Better Angels of Our Nature. A political crisis in the United States in the twenty-first century may not result in the same magnitude of slaughter that France saw during the Revolution and Terror, and the United States in the Civil War. But given the stakes, are we willing to bet on it? And wouldn’t it be better to figure out what ails our society so that we can fix it?

The real difference between us and our predecessors is that today we are rapidly gaining much better understanding of the inner workings of societies. We have better theories and data to help us figure out what makes societies function better, and what causes dysfunction. This understanding is a result of multidisciplinary research by a diverse group of scientists, who include anthropologists, sociologists, economists, mathematicians, evolutionary biologists, psychologists, historians, and archaeologists. We need all those disciplines, and a few others, to discover both the general principles that govern historical dynamics—how states rise and fall—and special circumstances that make each society unique. We call this new discipline Cliodynamics, from Clio, the muse of history in Greek mythology, and dynamics, the science of why things change (Turchin 2003b).

Although our understanding of historical dynamics is by no means complete, we now know enough to be worried, very worried, about the direction in which the United States is moving. Back in 2010, writing for the leading
science journal, *Nature*, I used Cliodynamics to predict that “the next decade is likely to be a period of growing instability in the United States and western Europe”. As I write this *Introduction*, we are half way through the decade and, as we will see in the following chapters, the troubling trends that I identified in 2010 are showing no signs of reversing themselves. The presidential election season of 2016 has hammered that message home in a particularly clear way.

This book explains why we should be worried about the current course taken by American society and how we can use history to plan a better future. And this brings me to the topic of the next section.

### Does History Have Lessons?

Science can yield deep understanding of the world, and such understanding translates into our ability to build and fix things. Thus, we know how to construct and fly spaceships and cure many diseases (and even eradicate some). Unfortunately, understanding of the dynamics and functioning of societies is nowhere near the point where it can be used in practical applications. In fact, our interventions to solve particular societal problems at times just make things worse. As I pointed out earlier, the American political leaders who allowed the Civil War to happen had no idea of the magnitude of the disaster they were about to experience.

As we shall see later in the book, something happened to American society during the 1970s. Several previously positive social, economic, and political trends suddenly reversed their direction. Each of these turn-around points has been noticed and commented on by social scientists and media commentators. However, what is not broadly appreciated is that these trend reversals were related. A human society is a *dynamical system*, and its economic, social, and political subsystems do not operate in isolation.

A well-meaning intervention to fix one particular problem is likely to have unexpected and, often, undesirable consequences (although, one hopes, not a disaster on the scale of the French Revolution and Terror). The only way to avoid such undesirable consequences is to gain a deep understanding of the fundamental mechanisms affecting functioning of complex macrosocial systems.

Such an understanding is the goal of Cliodynamics (*Turchin 2003b, 2008a*). Cliodynamics is one of the historical sciences, similar to astrophysics, geology, paleontology, evolutionary biology, and linguistics. Generally
speaking, manipulative experiments (when we change some condition and detect its effect by a comparison with unmanipulated controls) are impossible in historical sciences. Instead, progress is made by formulating general theories whose predictions can be tested with historical data, constructing large databases, capitalizing on natural experiments (Diamond and Robinson 2010), and designing *mensurative* experiments—planned comparisons between the predictions of two or more rival theories and data (Turchin 2006a). An explicitly historical approach is the key (which is why these disciplines are termed historical).

Such a focus on history, however, will strike many social scientists and, especially, policy-makers as seriously misguided. We live in such a rapidly changing world that surely history cannot have any real lessons for us. There is a marked tendency among policy-makers to deal with economic or political crises of today as though they were completely new and unprecedented. Such blindness to history often leads us to repeat old mistakes. Investors, for example, have been caught in one speculative frenzy after another throughout the centuries. Eventually, such financial bubbles always burst, but in the heady days before the crash the majority blithely believes that “this time is different” (Reinhart and Rogoff 2009).

In fairness to policy-makers, traditional history has generally failed to provide useful guidance for public policy. It is easy enough to buttress one’s argument for a proposed course of action by “cherry picking” examples from the historical record. The problem is, there are usually just as many examples supporting the opposite course. The same historical evidence can be used to make entirely different, and sometimes diametrically opposed arguments. As an example, recently a number of books have drawn parallels between today’s America and the Roman Empire. One is by Thomas Madden (2008), *Empires of Trust: How Rome Built—and America Is Building—a New World*. Another is *Ancient Rome and Modern America* by Margaret Malamud (2008). Yet another is by Cullen Murphy (2008) asking *Are We Rome?* Its subtitle, *The Fall of an Empire and the Fate of America*, suggest that America faces the same destiny as ancient Rome. But Vaclav Smil (2010) argues precisely the opposite, as his title indicates: *Why America is Not a New Rome*.

History has lessons for us, but these lessons must be extracted in an indirect way. What we need is *theory* in the broadest sense, which includes general principles that explain the functioning and dynamics of societies and models that are built on these principles, usually formulated as mathematical equations or computer algorithms. Theory also needs empirical content that deals with discovering general empirical patterns, determining the empirical
adequacy of key assumptions made by the models, and testing model predictions with the data from actual historical societies. A mature, or “developed” theory, thus integrates models with data; developing such a theory for history is the main goal of Cliodynamics. Practical applications become possible only as a result of progress towards understanding the general principles governing social dynamics.

This research program raises two fundamental questions. First, are there general principles of social dynamics? Second, even supposing we discover such principles by studying historical societies, will they still apply to the very different societies of today? In the following sections I address these questions; my focus is on why we sometimes see waves of sociopolitical instability that may, when extreme, cause state breakdown and collapse.

Complex Dynamics of Sociopolitical Instability

Empirical Patterns
Recent research indicates that the dynamics of sociopolitical instability in pre-industrial states are not purely random; history is not just “one damned thing after another”, as Arnold Toynbee famously said in response to another historian (Toynbee 1957: 267). There is a regular, albeit dynamically complex, pattern involving at least two cycles superimposed on each other (plus exogenous stochasticity on top of that). This dynamical pattern is apparent in Figures 1.1a and 1.1b. First, there are long-term waves of political instability with durations of a century or more that are interspersed with relatively stable periods. Second, note how the instability waves tend to look “saw-toothed”—there is a shorter oscillation with an average period of c.50 years (because the data in Figure 1.1 are sampled at 25-year intervals, a period twice that produces the pattern of alternating ups and downs). In this chapter I focus on the long waves, while deferring the discussion of shorter oscillations to Chapter 2 (Wheels within Wheels: Modeling Complex Dynamics of Sociopolitical Instability).

These data and analyses suggest that a typical historical state goes through a sequence of relatively stable political regimes separated by unstable periods characterized by recurrent waves of internal war. The characteristic length of both stable (or integrative) and unstable (or disintegrative) phases is a century or longer, and the overall period of the cycle is around two to three centuries (Figure 1.1).
Historians’ time divisions tend to reflect this pattern of multi-secular (or secular, for brevity) cycles. For example, Roman history is usually separated into Regal (or Kingdom), Republican, Principate, and Dominate periods. Transitions between these periods, in all cases, involved prolonged waves of sociopolitical instability (Figure 1.1a).
Similarly, the Germanic kingdoms that replaced the Roman Empire after it collapsed in the West went through a sequence of secular cycles that roughly corresponded to the dynasties that ruled them (Table 1.1). The instability waves have also been noted by historians, and sometimes given specific labels. The best known are the Crisis of Late Middle Ages between 1300 and 1450 (Tuchman 1978, Bois 1984, 2000) and the Crisis of the Seventeenth Century (Trevor-Roper 1966). The 17th century’s crisis affected polities across the whole of Eurasia (Goldstone 1991), although the precise dates varied from region to region. In France, for example, the crisis unfolded during the century following 1560 (see Table 1.1 and Figure 1.1b).

**Table 1.1** A summary of the chronological sequence of secular cycles in Western Europe. This chronology focuses on the dominant state within Western Europe: first on the Roman Empire, then medieval German empires, and finally France (modified from Turchin and Nefedov 2009: Table 10.1). The only exception is the Late Antiquity, when two parallel cycles for the Eastern Roman Empire and the Franks are shown. The naming convention is to use the dynasty that ruled during the integrative phase for the whole secular cycle (thus, the dates of dynasties and cycles do not correspond precisely).

<table>
<thead>
<tr>
<th>Dominant Polity</th>
<th>Secular cycle</th>
<th>Integrative phase</th>
<th>Disintegrative phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rome</td>
<td>Regal</td>
<td>650–500 BCE</td>
<td>500–350 BCE</td>
</tr>
<tr>
<td>Rome</td>
<td>Republican</td>
<td>350–130 BCE</td>
<td>130–30 BCE</td>
</tr>
<tr>
<td>Rome</td>
<td>Princiate</td>
<td>30 BCE–165 CE</td>
<td>165–285</td>
</tr>
<tr>
<td>Eastern Roman Empire</td>
<td>Dominate*</td>
<td>285–540</td>
<td>540–700</td>
</tr>
<tr>
<td>Frankish Empire</td>
<td>Merovingian*</td>
<td>480–640</td>
<td>640–700</td>
</tr>
<tr>
<td>Frankish Empire</td>
<td>Carolingian</td>
<td>700–820</td>
<td>820–920</td>
</tr>
<tr>
<td>German Empire</td>
<td>Ottonian-Salian</td>
<td>920–1050</td>
<td>1050–1150</td>
</tr>
<tr>
<td>France</td>
<td>Capetian</td>
<td>1150–1315</td>
<td>1315–1450</td>
</tr>
<tr>
<td>France</td>
<td>Valois</td>
<td>1450–1560</td>
<td>1560–1660</td>
</tr>
<tr>
<td>France</td>
<td>Bourbon</td>
<td>1660–1780</td>
<td>1780–1870</td>
</tr>
</tbody>
</table>

* Merovingian cycle in the West and the Dominate cycle in the Eastern Roman Empire

Secular cycles are also observed in other world regions: in China with its dynastic cycles (Figure 1.2), in the Middle East (Nefedov 1999), and in Southeast Asia (Lieberman 2003). In fact, it is a general dynamic pattern that is observed in all agrarian states for which the historical record is accurate enough (Turchin 2003b, Korotayev et al. 2006, Turchin and Nefedov 2009).
Figure 1.2. Long-term dynamics of sociopolitical instability in China (data from Lee 1931). Data are plotted per 25-year interval. “Index of Political Stability” refers to the number of instability events (civil wars, peasant uprisings, major outbreaks of banditry, etc.) per 5-year interval. Note that unlike in Figure 1.1, where labels are assigned to instability waves, here labels indicate internally stable periods, associated with a unifying dynasty.
As noted above, the dynamical pattern of sociopolitical instability in agrarian societies is complex: it involves at least two types of cycles superimposed on each other (and exogenous stochasticity on top of that). Note that instability waves in Figures 1.1a and 1.1b appear “saw-toothed”: on the scale of 25 years, there is a pattern of alternating ups and downs. However, unlike the secular waves, 50-year cycles are not a universal feature of agrarian societies. For example, they do not show up in the Chinese data (Figure 1.2).

*Explaining the Historical Patterns*

Strong empirical patterns suggest that instability dynamics in agrarian societies may be governed by general mechanisms. One possible explanation of why agrarian societies experience periodic state breakdowns is the Structural-Demographic Theory (Goldstone 1991, Turchin 2003b). According to this theory, population growth in excess of the productivity gains of the land has several effects on social institutions. First, it leads to persistent price inflation, falling real wages, rural misery, urban migration, and increased frequency of food riots and wage protests. Second, rapid expansion of population results in elite overproduction—an increased number of aspirants for the limited supply of elite positions. Increased intraelite competition leads to the formation of rival patronage networks vying for state rewards. As a result, elites become riven by increasing rivalry and factionalism. Third, population growth leads to expansion of the army and the bureaucracy and to rising real costs. States have no choice but to seek to expand taxation, despite resistance from the elites and the general populace. Yet, attempts to increase revenues cannot offset the spiraling state expenses. Thus, even if the state succeeds in raising taxes, it is still headed for fiscal crisis. As all these trends intensify, the end result is state bankruptcy and consequent loss of military control; elite movements of regional and national rebellion; and a combination of elite-mobilized and popular uprisings that expose the breakdown of central authority.

Sociopolitical instability resulting from state collapse feeds back on population growth via depressed birth rates and elevated mortality and emigration. Additionally, increased migration and vagrancy spread the disease by connecting areas that would have stayed isolated during better times. As a result, epidemics and even pandemics strike disproportionately often during the disintegrative phases of secular cycles (Turchin 2008b). Instability also has a negative impact on the productive capacity of a society. Lacking strong government to protect them, peasants cultivate only fields that are near fortified settlements or other strongpoints (e.g., hilltop settlements). Conversely,
the strong state protects the productive population from external and internal (banditry, civil war) threats, and thus allows the whole cultivable area to be put into production.

Recent research has shown that the predictions of the Structural-Demographic Theory find much empirical support in detailed case-studies of medieval and early-modern England and France, ancient Rome, and Muscovy-Russia (Turchin and Nefedov 2009). Furthermore, wherever we can find quantitative data on the key structural-demographic variables, we find that relationships between them conform to those postulated by the theory. Thus, the structure of dynamical feedbacks between population growth and sociopolitical instability is precisely as postulated by the model: population pressing against Malthusian limits causes instability to rise, while high instability depresses population growth leading to population decline or stagnation (Turchin 2005). Other empirically strong feedbacks between variables include the negative relationship between the supply of labor and real wages, and the positive association between popular immiseration and elite expansion (reflected in growing numbers of elites and an increase in their incomes). The data also indicate that one of the most reliable predictors of state collapse and high political instability is elite overproduction (Turchin and Nefedov 2009:314).

I have already commented above that secular cycles are not cycles in the strict mathematical sense. The period of oscillation is not fixed; instead, there is a statistical tendency for instability waves, or vigorous population growth periods, to recur on a characteristic time-scale. It would be strange if it were otherwise—the structural-demographic model describes only one set, albeit an important one, of factors affecting population and instability dynamics. Amelioration of the climate or a technological advance may increase the carrying capacity, prolonging the population growth phase and postponing the onset of instability. Successful conquest followed by colonization of the newly acquired lands may have the same effect.

While the overall dynamics are complex, the dynamical feedbacks between variables, that is, mechanisms that generate the dynamics, are often characterized by a high degree of determinism. One example (out of a multitude documented in Turchin and Nefedov 2009) is an uncannily close relationship between population pressure on resources and popular immiseration (inverse real wage) shown in Figure 1.3.
From Agrarian to Industrial Societies

Reformulating the Theory for Modern Societies

I started this chapter by asking whether history has any lessons for us today. Some may respond that while it is all well and good that the dynamics of agrarian societies are governed by mechanisms we can identify and quantify, the dynamics of modern societies are probably governed by a different set of mechanisms, thanks to the dramatic effect of the Industrial Revolution on the structure and dynamics of those societies. According to this argument, any lessons of history are obsolete.

Clearly, at least some of the relationships postulated by the Structural-Demographic Theory have been made obsolete. In particular, we hardly expect population increase to result in starvation in Western industrialized states. But perhaps other aspects of the theory may be more robust with respect to changes brought about by the Industrial Revolution. Can the theory be reformulated in a way that would make it useful for describing the dynamics of industrialized societies?
This question has both a theoretical and an empirical part. The rest of this chapter will be devoted to the theoretical reformulation and Chapter 2 will approach this question from a more formal modeling perspective, while chapters in Parts II–IV will empirically test the theoretical predictions, using the United States as the case study.

The starting point for a reformulation of the Structural-Demographic Theory is provided by the three theory-motivated and empirically-supported generalizations discussed at the end of Secular Cycles (Turchin and Nefedov 2009:313–14): (1) the Neo-Malthusian principle, (2) the principle of elite overproduction, and (3) the structural-demographic causes of political instability. The Neo-Malthusian principle that sustained population growth inevitably leads to falling living standards and popular immiseration, has, clearly, been challenged the most by the agrarian-industrial transition. However, it can be restated in more general terms of supply and demand (Borjas 2009): when the supply of labor exceeds its demand, its price should decrease (depressing living standards for the majority of population). In agrarian economies, demand for labor is limited by the availability of cultivable land, so unchecked population growth inevitably leads to falling living standards. In modern economies, by contrast, the demand for labor is much more dynamic and can change as a result of technological advances, investments in physical and human capital, and growing demand for goods and services resulting from increasing per capita consumption. Additionally, modern societies are much more interconnected globally, and the balance of supply and demand for labor in any particular country can be affected by international flows of people and jobs. Thus, the set of factors affecting living standards in modern societies is much more complex than in agrarian. Nevertheless, to a first approximation, there should be two principal components in its long-term dynamics. First, there should be a monotonic trend to higher popular wellbeing resulting from scientific and technical progress. Second, around that trend there may be oscillations reflecting the shifting balance between the demand for and the supply of labor. The first proposition is hardly controversial, and the second leads to a hypothesis that can be tested empirically (and will be, using the US data).

The principle of elite overproduction is also a consequence of the law of supply and demand. The elites (in both agrarian and capitalist societies) are consumers of commoner labor. Low labor costs lead not only to declining living standards for a large segment of the population (employees, especially unskilled ones), but also to a favorable economic conjuncture for the elites (more specifically, for the economic segment of the elites—employers). There
are several important consequences of this development. First, the elites become accustomed to ever greater levels of consumption. Furthermore, competition for social status fuels “conspicuous consumption” (Veblen 1973 [1899]). Thus, the minimum level of consumption necessary for maintaining the elite status exhibits runaway growth. Second, the numbers of elites, in relation to the rest of the population, increase. A favorable economic conjuncture for the employers enables large numbers of intelligent, hard-working, or simply lucky workers to accumulate wealth and then attempt to translate it into social status. As a result, upward mobility into the ranks of the elites will greatly surpass downward mobility. Additionally, there may be increased biological reproduction within elite families, although this mechanism was of greater importance in pre-industrial societies and, especially, societies with widespread polygyny among the elites (such as the Islamic ones). The third consequence is that the twin processes of declining living standards for the commoners and increasing consumption levels for the elites will drive up socioeconomic inequality.

As a result of the growth in elite appetites and numbers, the proportion of the total economic pie consumed by them will increase. However, there are limits on how far this process can go. Eventually, increasing numbers of elites and elite aspirants will have to translate into declining consumption levels for some, leading to the condition that has been termed *elite overproduction* (this is reminiscent of population growth leading to overpopulation). Intraelite competition for limited elite positions in the economy and government will become more fierce. Competition will be particularly intense for government positions whose supply is relatively inelastic (or completely inelastic—the there can be only one President, nine Supreme Court Justices, and one hundred Senators). Since the number of power positions is limited, a growing segment of elites/elite aspirants must be denied access to them. These “surplus” elites must challenge the established elites for access to elite positions, or acquiesce in downward mobility. A democratic system of government may allow for nonviolent rotation of political elites, but ultimately this depends on the willingness of some segments of established elites and/or elite aspirants to give up their elite positions and status. Thus, elite overproduction increases the probability of violent intraelite conflict. One common response by the established elites under these conditions is to close ranks and exclude other elite aspirants from power, which causes the latter to organize as *counter-elites*. A classic example of this dynamic is the closing of the Roman patriciate (*la serrata del patriziato*) to new members in the early Republic (de Sanctis 1953), which was followed by a lengthy struggle between the established elites (patricians)
and counter-elites (wealthy and socially prominent plebeians). Another example is la Serrata del Maggior Consiglio (the Great Council of Venice) in 1297, followed by other measures which by the 1320s had achieved the closing of the Venetian patriciate (Chojnacki 1994).

Elite overproduction leading to intraelite competition and conflict is, thus, one of the chief causes of political instability. Two other causes are popular discontent resulting from falling living standards, and fiscal crisis. These three causes interact in producing conditions ripe for political violence. Thus, one common tactic employed by the counter-elites is to mobilize the masses against the established elites, something made possible by deep-running popular discontent. On the other hand, elite overproduction contributes to the financial difficulties of the state, because impoverished members of the elites, seeking to secure resources to maintain their status, put enormous pressure on the state to provide employment for them, tipping state finances further into the red.

Our investigation of structural-demographic crises in the eight agrarian states suggested that the three structural-demographic causes of sociopolitical instability are not equal in their importance:

The demographic-structural theory proposes three principal causes of the onset of a disintegrative trend (that is, a lengthy period of heightened instability): overpopulation, elite overproduction, and the fiscal crisis of the state. As we discussed in Section 10.4, however, some causal factors are relatively more important than others. In particular, a factor that appears to be always associated with high instability (at least, in the eight case studies that we examined) is the elite overproduction. Overpopulation, by contrast, results in popular immiseration and discontent, but as long as the elites remain unified, peasant insurrections, slave rebellions, or worker uprisings have little chance of success, and are speedily suppressed. Furthermore, when population declines during the disintegrative periods, there is often a substantial lag time between population density reaching a low level and the time when internal peace and order are restored. The third component, the fiscal crisis of the state, is usually present, but sometimes is missing as triggering factor leading to civil war (see Section 10.4). Thus, overpopulation and fiscal crisis are important contributing factors, but the dominant role in internal warfare appears to be played by elite overproduction leading to intraelite competition, fragmentation, and conflict, and the rise of counter-elites who mobilize
popular masses in their struggle against the existing order. (Turchin and Nefedov 2009:314)

Table 1.2 summarizes the predictions of the structural-demographic theory that should survive the agrarian/industrial transition.

<table>
<thead>
<tr>
<th>Prediction</th>
<th>Brief explanation</th>
</tr>
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<tbody>
<tr>
<td>Labor oversupply principle</td>
<td>When the supply of labor exceeds its demand, the price of labor decreases, depressing the living standards for the majority of population, thus leading to popular immiseration, but creating favorable economic conditions for the elites.</td>
</tr>
<tr>
<td>Elite overproduction principle</td>
<td>Favorable economic conjuncture for the elites results in increasing numbers of elites and elite aspirants, as well as runaway growth of elite consumption levels. Elite overproduction results when elite numbers and appetites exceed the ability of the society to sustain them, leading to spiraling intraelite competition and conflict.</td>
</tr>
<tr>
<td>Instability principle</td>
<td>Chief causes of sociopolitical instability (in order of importance) are (1) elite overproduction leading to intraelite competition and conflict, (2) popular immiseration, resulting from falling living standards, and (3) the fiscal crisis of the state.</td>
</tr>
</tbody>
</table>

**Structural-Demographic Theory is not Neo-Malthusianism**

One common misconception equates structural-demographic theory (SDT) with Malthusianism. Indeed, the insights of Thomas Robert Malthus do form an important part of SDT. However, the theory integrates key Malthusian ideas with those of Marx and Weber (Turchin and Nefedov 2009: Chapter 1). SDT is a novel synthetic theory and its predictions can differ significantly from those of traditional Malthusianism, or of Marxism. For example, Malthusian theory predicts that a dramatic population decline, such as that which resulted from the Black Death epidemic in 1347–52 in Western Europe, should cause a rise in living standards, cessation of political instability, and resumption of robust population growth. These consequences should follow the relaxation of population pressure on resources without a significant time lag. In the SDT, by contrast, cessation of political instability occurs not when overpopulation is reversed, but when, in addition, the conditions of
elite overproduction no longer obtain. In Western European societies with militarized elites this process takes time—several generations were required for the surplus elites to disappear as a result of being killed off in civil wars and low biological and social reproduction (that is, massive downward social mobility). Thus, the SDT predicts a lengthy period of political instability following population decline (this is known as the depression phase of the secular cycle). The century-long period of political instability following the Black Death in Western Europe, thus, is consistent with the predictions of the SDT, but not Neo-Malthusianism.

More generally, because in this book I am applying the theory to an industrializing and, eventually, post-industrial state, we should expect that the Malthusian component of the SDT would lose much of its salience. To emphasize this, I named the first SDT prediction in Table 1.2 Labor Oversupply Principle.

The “demographic” in the SDT, thus, does not mean “Malthusian”. It refers to the characteristics of the non-elite population (from the Ancient Greek, demos, the people), primarily their wellbeing (and its inverse, popular immiseration). The “structural” part is even more important in understanding the onset of instability waves, because the theory pays a lot of attention to social structures (elite-general population interactions) and political structures (the state-elite-population interactions).

**Organization of the book**

The overall purpose of this book is to test the predictions of the Structural-Demographic Theory against the empirical material of the United States from its formation (c.1780) to the present. The three theoretical propositions discussed in the previous section (the effect of labor oversupply on living standards, the elite overproduction principle, and the structural-demographic causes of sociopolitical instability, see Table 1.2) provide the focus for empirical tests, but these are not the only theoretical predictions that will be addressed. There are other insights from the application of the structural-demographic theory to pre-industrial societies that are worth pursuing, although in a more informal way than the three main predictions. For example, I have already mentioned the general pattern of the dynamics of sociopolitical instability in historical society, resulting from the superposition of 50-year cycles on secular waves. Does this pattern hold for the United States? Examination of historical societies also yielded a number of insights not only
about how they descend into crisis, but also what social mechanisms enable them to end civil wars and enter the next integrative phase. Rather than formalizing these observations as specific hypotheses ahead of time (as I did with the three propositions) I will bring them up informally when discussing relevant periods of the American history (a detailed list of these predictions can be found in Turchin and Nefedov 2009: Table 1.1).

The approach taken in this book mirrors the organizing scheme used in our previous study of agrarian states (Turchin and Nefedov 2009). After discussing modeling approaches in Chapter 2, Part II presents a systematic survey of the data on the dynamics of the fundamental variables of the structural-demographic model. A chapter is devoted to each of the following topics: demography and wellbeing, social structure (specifically, the numbers and consumption levels of the elites), the state strength and collective solidarity, and sociopolitical instability. These variables are fundamental in the sense that it is the feedback interactions between them that generate secular cycles (Turchin and Nefedov 2009:29–30). Next, once the general outlines of the structural-demographic dynamics have been established, I shift the focus to examining how these variables have interacted with each other during different eras of American history. Accordingly, Part III proceeds systematically through the first secular cycle (1780–1930), while Part IV does the same for the current cycle (1930 to the present).