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Rethinking the culture-economy dialectic

Brons, Lajos Ludovic

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chapter 7

ON THEORIES AND TESTS

Bedarf es tiefer Einsicht, um zu begreifen, daß mit den Lebensverhältnissen der Menschen, mit ihren gesellschaftlichen Beziehungen, mit ihrem gesellschaftlichen Dasein, auch ihre Vorstellungen, Anschauungen und Begriffe, mit einem Worte auch ihr Bewußtsein sich ändert?

Karl Marx & Friedrich Engels 1848, p. 480

The really fundamental problems of economic growth are non-economic.

Norman Buchanan & Howard Ellis 1955, p. 405

7 / 1 / introduction

A bewildering number of theories on relationships between (aspects of) culture and economy have been proposed over the last two centuries. Generally, however, these theories can be categorised in two classes or types depending mainly on the direction of the causal relationship: (1) theories on the influence of the economy on culture, and (2) theories on the influence of culture on economic growth. One of the first – and certainly the most influential – theories belonging to the first group was Marx's and Engels's *historical materialism* (see § 3.4.1). The same position is held in the second group by Weber's theory on the influence of Protestantism on the development of capitalism (see § 3.5.1). These are the two grand theories of the culture - economy dialectic (CED).

This chapter presents an analysis of these two grand theories and their offspring. To summarise, compare and test theories, they are translated into the (formal) conceptual framework developed in chapter 5 and operationalised by means of the measures proposed in chapter 6. As the theories of the CED are theories of causal relationships (see § 5.3) between aspects of social reality (see § 5.2), it is causality that is to be tested.

Not all testing is (or can be) done by means of quantitative techniques. Statistical testing offers some advantages because it deals with many cases at the same time, but many theories and sub-theories of the CED postulate relationships between phenomena that have not been measured in the preceding chapter and often even cannot be measured quantitatively. In these cases other types of analysis, such as historical analysis, are necessary. Not all of the test results presented in this chapter are new. In many cases it may

be sufficient to refer to earlier empirical and historical research. New 'evidence' is added mainly if a particular (sub-) theory is insufficiently tested (at a particular scale) and if the available data allows this.

7 / 1 / 1 / testing for causality

The preceding chapter dealt with the operationalisation and measurement of the C and E in the CED, but what should be tested is the relationship between C and E. Hence, the final step required in operationalisation is a testing procedure for the theoretical relationships between culture and economy. As these relationships are of a causal nature (see § 5.3), what is needed is a test for causality. That may be difficult, however. This difficulty is caused by the fact that causality is not an empirical category. This was explained most influentially by Hume (1748):

Suppose a person, though endowed with the strongest faculties of reason and reflection, to be brought on a sudden into this world; he would, indeed, immediately observe a continual succession of objects, and one event following another; but he would not be able to discover anything farther. He would not, at first, by any reasoning, be able to reach the idea of cause and effect; since the particular powers, by which all natural operations are performed, never appear to the senses; nor is it reasonable to conclude, merely because one event, in one instance, precedes another, that therefore the one is the cause, the other the effect. Their conjunction may be arbitrary and casual. There may be no reason to infer the existence of one from the appearance of the other. (§ V.1.3)

At some point, this person will categorise the observed succession in terms of causes and effects. There is, however, no empirical justification for this categorisation. 'There is some other principle which determines him to form such a conclusion. This principle is Custom or Habit' (§ V.1.4-5). Causality, therefore, is a theoretical relationship based on custom or habit, on repeated succession and: 'All inferences from experience, therefore, are effects of custom, not of reasoning' (§ V.1.5).

As causality is a theoretical relationship, empirically testing it is impossible. What can be tested, however, is the validity of the observation of custom or habit on which the assumed causality is based. What can be tested, in other words, is a *symptom*, a cause and consequence of causality: if there is a causal relationship, there must be some empirically measurable relationship between the assumed causes and effects. For example, if x and y are defined as possibly causally related events or phenomena and a, b, and c as points in time such that:

D7.1 $\forall a,b,c [\text{pris}(a,b) \wedge \text{pris}(b,c) \wedge a \neq c] ,$

in which the two-place predicate *præ*s means 'precedes or coincides with', then it is assumed that:

$$\mathbf{T7.1} \quad \forall x,y [x \Rightarrow y \rightarrow \rho(x_a,y_c) > \rho(x_b,y_b)] ,$$

in which $\rho(x,y)$ is the Pearson correlation of variables x and y and which may be read as: 'if x causes y , then older measures of x are correlated more strongly to newer measures of y than measures of x and y from the same point in time are correlated'. The connector in the formula, however, is a conditional, not a biconditional, which implies that it cannot be reversed without alterations. T7.1 implies that:

$$\mathbf{T7.1a} \quad \forall x,y [\rho(x_a,y_c) > \rho(x_b,y_b) \rightarrow \diamond(x \Rightarrow y)] .$$

In other words: empirical verification of $\rho(x_a,y_c) > \rho(x_b,y_b)$ does not prove $x \Rightarrow y$, it merely shows that $x \Rightarrow y$ is possible, which is not a very helpful kind of result. However, T7.1 is logically equivalent to:

$$\mathbf{T7.1b} \quad \forall x,y [\neg(\rho(x_a,y_c) > \rho(x_b,y_b)) \rightarrow \neg(x \Rightarrow y)] ,$$

which means that if $\rho(x_a,y_c) > \rho(x_b,y_b)$ is not empirically true, $x \Rightarrow y$ cannot be true. Hence, by empirical means $x \Rightarrow y$ cannot be verified, but *can* be falsified. Of course, this conclusion hinges on the assumption presented in T7.1. However, to complicate things even further, T7.1 is not necessarily true, which is illustrated in figure 7.1.

figure 7.1: correlation of causally related x and y at varying points of measurement (t) of x

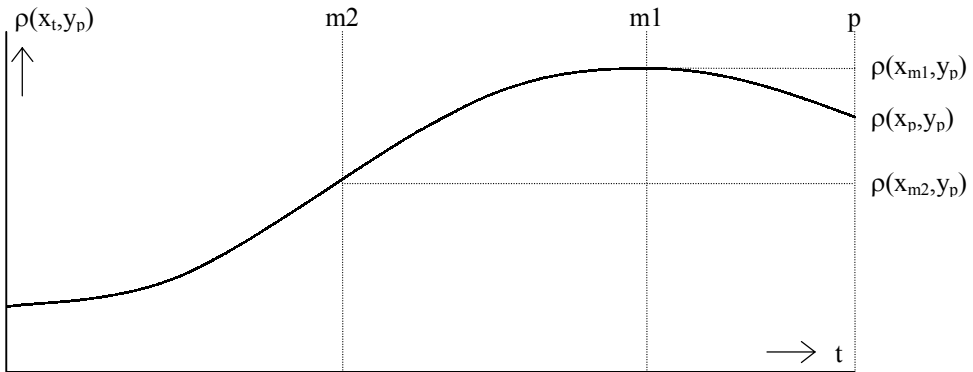


Figure 7.1 graphs the correlation ($\rho(x_t,y_p)$) of two causally related events or phenomena, such that $x \Rightarrow y$. If $a = m1$ and $b = c = p$, then $\rho(x_a,y_c) > \rho(x_b,y_b)$ and, therefore, T7.1 is true. However, if $a = m2$ and $b = c = p$, then $\rho(x_a,y_c) < \rho(x_b,y_b)$ and, therefore, T7.1 is false.

Hence, by implication, $x \Rightarrow y$ can only be falsified by empirical disconfirmation of $\rho(x_a, y_c) > \rho(x_b, y_b)$ if tested for *all* possible triplets $\langle a, b, c \rangle$, which is clearly impossible.

The ideal case for testing for causality would require long data series on the basis of which *causal graphs* similar to figure 7.1 can be drawn. However, in many cases, there are only one or two measurements. As was shown above, in the case of two measurements causality cannot be falsified, unless the definition of the causal relationship under scrutiny includes a time lag that corresponds to the two points of measurement. For example, if figure 7.1 represents actual empirical data selected to test a theory that predicts that $x \Rightarrow y$ by a time lag of $p - m2$, then $\rho(x_a, y_c) < \rho(x_b, y_b)$, and therefore, that specific theory $x \Rightarrow y$ is falsified.

If there only is a single point of measurement testing is even more problematic. The basic idea is that if x and y are causally related (whatever the direction of this relationship), then there should be two points of measurement a and b such that x and y correlate significantly:

$$\mathbf{T7.2} \quad \forall x, y [(x \Rightarrow y \vee y \Rightarrow x) \rightarrow \exists a, b, [\text{sigcor}(x_a, y_b)]]$$

in which the predicate *sigcor* means 'correlates significantly'. As was the case in T7.1, verification of $(x \Rightarrow y \vee y \Rightarrow x)$ on the basis of T7.2 is impossible. Moreover, falsification is also impossible because falsification would require proving $\neg \exists a, b, [\text{sigcor}(x_a, y_b)]$, which would require testing for *all* possible $\langle a, b \rangle$. However, in testing for causality between social phenomena, if a and b are relatively close together (or close to the beginning and end of the assumed time lag) and there is no correlation between x_a and y_b whatsoever, causality is rather unlikely because social phenomena (x and y) tend to change relatively slowly. Unfortunately, 'unlikeliness' is the best one can do in this kind of testing.

While testing for causality is problematic at least, testing hypotheses on the strength of causal relationships is even more troublesome. In section 5.3 different strengths of the causal relationships in the CED were distinguished, but not defined. As was claimed in that section, the difference between strong and weak causation (\Rightarrow^s vs. \Rightarrow^w) is rather subjective. Nevertheless, one might claim that if $\text{sigcor}(x, y)$, x and y may be strongly causally related if ρ is very high and weakly if ρ is relatively low. The boundary between "high" and "low", again, is very subjective (although $\sqrt{0.5} \approx 0.7$ seems to be an obvious candidate).

This section can be summarised very briefly as 'testing for causality is impossible'. However, several ways to show the (im-) probability of supposed causal relationships have been suggested. First of all, if very little data is available, the lack of a significant correlation makes a direct causal relationship between social phenomena unlikely. If time series data is available for at least one of the variables, $\rho(x_a, y_c) > \rho(x_b, y_b)$ can be tested for a range of (but *not* all) $\langle a, b, c \rangle$ and a graph similar to figure 7.1 can be drawn. Again this does not prove anything, but a *causal graph* shaped like that in figure 7.1 at least does *not*

refute causality. Rather to the contrary, it supports (but does *not* prove) causality with a time lag of $p-m_1$.

The methods used for testing the relationships between cultural and economic phenomena in this chapter are correlation and multiple regression. The latter is both mathematically and practically very similar to correlation, but is more useful if more than one influence or relationship is to be tested at the same time or if the independent variable (the assumed cause) in the tested relationship has to be controlled for another variable. For example, testing for the influence of cultural values on consumptive behaviour would be meaningless, even absurd, if (consumer) income is not taken into account.

Of course, more sophisticated statistical techniques are available (such as Structural Equation Modelling / LISREL), but these do not change the basic fact that only (im-)probability of causal relationships can be shown, while these sophisticated techniques are less transparent and often allude social scientists into thinking they are actually proving or disproving causality.

7 / 1 / 2 / this chapter

This chapter presents an overview of the most important theories of the CED and their empirical (dis-) confirmations. The first part, consisting of sections 7.2 to 7.5 deals with the many theories of the CED and the existing empirical confirmations and refutations thereof. The first grand theory, historical materialism, and its descendants, such as modernisation theories, are the focus of section 7.2. Section 7.3 describes the second grand theory, Weber's thesis on the influence of Protestantism on entrepreneurship, and related theories of cultural influences on entrepreneurship and economic growth. Section 7.4 presents a brief review of empirical tests of the two grand theories and their offspring. The distinction between the theoretical, descriptive sections (§§ 7.2-3) and the empirical section (§ 7.4) is a bit artificial, however, as several theories of the CED were presented in empirical studies or reactions thereupon. Hence, some empirical results will be mentioned in the theoretical sections (§§ 7.2-3).

An overview of a number of theories of the CED that are not (directly) related to the two grand theories, such as theories on the relationship between culture, institutions and economic growth, is provided in section 7.5, which closes of the first part of this chapter. (Some existing empirical confirmations and refutations are included in section 7.5.)

The second part of this chapter, section 7.6, presents some additional statistical tests. Testing is done partly by means of a brief review of previous empirical research (in § 7.4 and § 7.6.1) and partly by new statistical tests on the regional level (in § 7.6.2). Operationalisation and measurement of the variables used was explained in chapter 6, the testing procedure itself was dealt with briefly in the preceding section, but further details will be specified in section 7.6. Section 7.7, finally summarises the main conclusions of this chapter.

7 / 2 / the first grand theory

The first grand theory (GT1) is shorthand for historical materialism (HM) and related theories on the influence of the state or development of the economy on culture. Historical materialism was developed by Marx (and to a lesser extent Engels) in the first half of the 19th century. HM strongly influenced much of (late) 20th century theorising on the relationships between culture and economy, especially in the form of *modernisation* theories. The general form of the theories of the type GT1 could be formalised as:

$$\mathbf{T7.3} \quad \Delta\{\mathbf{B}, \mathbf{M}\}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M} - \mathbf{M}_{\text{PCD}}) ,$$

in words: the (state of the) economy (as the combination (or interaction) of behaviour and meta-behaviour related to production, consumption and distribution (PCD)) $\{\mathbf{B}, \mathbf{M}\}_{\text{PCD}}$ (co-) determines (non-economic / non-PCD) culture or meta-behaviour $(\mathbf{M} - \mathbf{M}_{\text{PCD}})$. From T7.3 a number of 'sub-theories' can be derived. These are theories on causal relationships between parts or subsets of the variables in T7.3. For example, both $\Delta\mathbf{B}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M} - \mathbf{M}_{\text{PCD}})$ and $\Delta\mathbf{M}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M} - \mathbf{M}_{\text{PCD}})$ are special cases of GT1, such that:

$$\mathbf{T7.3a} \quad ((\Delta\mathbf{B}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M} - \mathbf{M}_{\text{PCD}})) \vee (\Delta\mathbf{M}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M} - \mathbf{M}_{\text{PCD}}))) \rightarrow \mathbf{T7.3} ,$$

but, of course, not the other way around. Although the truth of, for example, $\Delta\mathbf{B}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M} - \mathbf{M}_{\text{PCD}})$ would 'prove' T7.3 (insofar as this is possible; see § 7.1.1); such a 'proof' would not necessarily make T7.3 a good theory as it would be far broader than evidence suggests. Hence, the goal of this chapter is not only to empirically verify or falsify T7.3 and other theories of the CED, but also, wherever possible, to refine them.

The following subsections deal with historical materialism (§ 7.2.1) and modernisation and stage theories (§ 7.2.2). Section 7.3 focuses on the second grand theory: the influence of culture on entrepreneurship and economic growth. In (sub)sections 7.4.1 and 7.6 some of the theories presented in this section are tested.

7 / 2 / 1 / historical materialism

Historical materialism (HM) was conceived roughly between 1843, when Marx read (a.o.) Smith's *Wealth of nations* (1776) and Montesquieu's *De l'esprit des loix* (1748), and 1859, when his *Zur Kritik der Politischen Ökonomie* was first published in Berlin. Of course, Marx's ideas were not completely new and numerous predecessors and influences have been suggested by various scholars. (Note that HM is not the most common abbreviation of historical materialism. It is (or was) often abbreviated as *histomat* and dialectical materialism is (or was) often abbreviated by *diamat*. These abbreviations, however, were

introduced and used (mainly) in Stalinist Soviet orthodoxy, hence, the preference for another, less historically burdened abbreviation.)

According to Seligman (1901) HM is rooted in the works and theories of Vico and Montesquieu. Jakubowski (1936) points at the importance of Hegel and Feuerbach. All of these influences have been dealt with briefly in subsection 3.4.1. Most important were the reinterpretation of Montesquieu's interacting and *spirit*-shaping physical geography, psychological nature of the people, cultural patterns, history, religion and economic mode of being as a Hegelian dialectical *totality*, and the Feuerbachian reversal of Hegelian idealism into a materialism in which the economic, material base determines the ideal superstructure (see also § 3.2.2 and § 3.4.1).

One of the most important influences and the most important predecessor of HM at least, was Saint-Simon (e.g. Taylor 1975; Kolakowski 1976). Before Marx, Saint-Simon suggested that socialism is not just a hypothetical model of society, but the result of a historical process. A few decades before the introduction of HM, he argued that *the development of the means of production is the source of all historical changes* (e.g. Saint-Simon 1817). Interestingly, Saint-Simon argued that this process of historical development is a continuous alternation of organic and critical periods. In organic periods there is consensus on the principles of science, thought and society. Critical periods are the inevitable revolutionary transitions between organic periods. One-and-a-half century later, this part of Saint-Simon's philosophy of history was nearly literally copied by Kuhn (1962). Other, less obvious, influences on the origins of HM have been suggested. Meek (1967), for example, argued that HM was strongly influenced by the Scottish Enlightenment. Scientists and philosophers of the Scottish Enlightenment (which include, for example, Hume, Ferguson, Hutcheson and Smith) generally adhered to a four-stage model of socio-economic development of nations (savage, pastoral, agricultural, commercial). According to Meek, this four-stage model was the foundation on which Marx built HM. However, as mentioned before, Marx read Smith's *Wealth of nations* (1776) in 1843, but besides that, he did not read much of the works of the Scottish Enlightenment. Moreover, the lack of terminological and/or theoretical similarities between HM and the four-stage model seriously undermines Meek's theory on the influence of the latter on the development of HM (Levine 1987).

According to Levine (1987), HM is rooted in the German historical school of law, legal sociology and especially the works of the German historian Bartold Niebuhr (which were all closely linked to Romanticism). From the latter Marx took his historicist interpretation of property, the theory that the form of ownership (co-)determines the structure of society.

Marx's and Engels's first statements on HM date back to *Die Deutsche Ideologie* of 1846, which was, however, only published in 1932. The first published statements on HM can be found in *Das Elend der Philosophie* (Marx 1847) and the *Manifest der Kommunistischen Partei* (Marx & Engels 1848; see quotes in § 3.4.1):

Mit der Erwerbung neuer Produktivkräfte verändern die Menschen ihre Produktionsweise, und mit der Veränderung der Produktionsweise, der Art, ihren Lebensunterhalt zu gewinnen, verändern sie alle ihre gesellschaftlichen Verhältnisse. Die Handmühle ergibt eine Gesellschaft mit Feudalherren, die Dampfmühle eine Gesellschaft mit industriellen Kapitalisten. (Marx 1847, p. 130)

The *locus classicus* for HM, however, was published a decade later in the preface to *Zur Kritik der Politischen Ökonomie* (1859):

Die Produktionsweise des materiellen Lebens bedingt den sozialen, politischen und geistigen Lebensprozeß überhaupt. Es ist nicht das Bewußtsein der Menschen, das ihr Sein, sondern umgekehrt ihr gesellschaftliches Sein, das ihr Bewußtsein bestimmt. (pp. 8-9; more fully quoted in § 3.4.1)

After Marx's and Engels's deaths, HM was codified by Plekhanov (1908) and Stalin (1939) (and to a lesser extent also by Lenin), as a simple mechanism of the economic determination of society. The Marxist orthodoxy that grew from their work was opposed (mainly) by Marxists from Western countries including Lukacs (*e.g.* 1923), Gramsci (*e.g.* 1929-35) and Bloch (*e.g.* 1954-9; 1961). (One of the rare critical contributions from within the Soviet bloc by the East German chemist and philosopher Havemann (1964) was – of course – published in West Germany only.)

These 'Western Marxists' emphasised the dialectical nature of HM. It is not just the economic base that determines the superstructure; the superstructure itself can have a leading role in social development:

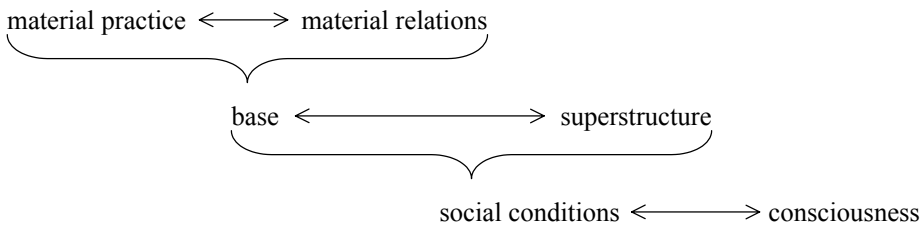
A prendre donc les choses en gros, c'est bien l'industrie humaine qui constitue la principale force motrice de l'histoire. Mais, en faisant cette constatation, les marxistes ne prétendent pas que ce soit la seule force. Ils ne disent nullement que les facteurs intellectuels et moraux ne jouent aucun rôle dans l'évolution des sociétés. (Vandervelde 1904, p. 168)

The strong emphasis on the dialectical aspect of HM is not typical just for Western Marxism, but for Far Eastern Marxism as well. Traditionally dialectical Chinese thought (see § 2.5.2) strongly influenced Mao's interpretation of HM:

in the contradiction between the economic base and the superstructure, the economic base is the principal aspect; and there is no change in their respective positions. This is the mechanical materialist conception, not the dialectical materialist conception. True, the productive forces, practice and economic base generally play the principal and decisive role; whoever denies that is not a materialist. But it must also be admitted that in certain conditions, such aspects as the relation of production, theory and the superstructure in turn manifest themselves in the principal and decisive role. (Mao 1937, pp. 335-336)

HM was a far more complex theory than the orthodox codification suggests. However, the fact that Marx never wrote a systematic treatise on his philosophy and that this, therefore, must be reconstructed from scattered statements and remarks throughout his books, notes and letters, enabled nearly every interpreter of HM, including Plekhanov and Stalin, to find the quotes and fragments he needed to support his version. Many versions and interpretations of HM exist and have existed, even in the works of Marx and Engels themselves. One could (even) claim that there is no single (consistent) theory of HM. Nevertheless, Burbelka (1982) presented an attempt to combine and reinterpret theories, fragments, aspects and versions of HM in a single framework. This framework is presented graphically in figure 7.2:

figure 7.2: *Burbelka's system of HM theories*



(figure adapted from Burbelka 1982, p. 227)

Burbelka suggested interpreting HM as a hierarchical system of three different, nested dialectics. The interaction of material practice and material relations is the *base* that itself interacts with *superstructure*. All of this in its turn is the system of *social conditions* which interacts with *consciousness*. Burbelka's system can be translated in the conceptual framework developed in chapter 5, as a theory of HM that contains the different smaller, more detailed theories, ideas and aspects.

The concept of "material" in the Marxian conceptual framework refers to the economic, to production, consumption and distribution (PCD; a division that was first proposed by Say (1829)), but to production especially. "Practice" can refer to either actual behavioural events \mathbb{B} or to patterns of behaviour \mathbb{P} . Both Burbelka (1982) and Marx's own writings suggest the latter interpretation: it is the economic way of life rather than actual economic behaviour that is concerned here. As "material relations" are the rules and institutions of PCD: \mathcal{U}_{PCD} , material practice is $\mathbb{P}_{\text{PCD}} - \mathcal{U}_{\text{PCD}} = \mathcal{H}_{\text{PCD}}$. "Base" is, according to Burbelka, both the interaction of material practice and relations: $\Delta \mathcal{H}_{\text{PCD}} \Leftrightarrow \Delta \mathcal{U}_{\text{PCD}}$, and the combination thereof $\mathcal{H}_{\text{PCD}} \cup \mathcal{U}_{\text{PCD}} = \mathbb{P}_{\text{PCD}}$. However, the fuzziness of the boundary between \mathcal{H}_{PCD} and \mathcal{U}_{PCD} and the fact that the interaction or reciprocity between the two is of only very minor importance in HM, it seems to be more appropriate to define base as just \mathbb{P}_{PCD} .

In the preface to *Zur Kritik der Politischen Ökonomie* (1859), Marx writes about the 'legal and political superstructure'. Hence, "superstructure" is the set of legal and political rules

and institutions: $\mathcal{U}_{\text{leg.pol}}$. This superstructure is (co-)determined by the (economic) base: $\Delta\mathbb{P}_{\text{PCD}} \Rightarrow^s \Delta\mathcal{U}_{\text{leg.pol}}$ and this interaction, in turn determines *consciousness*, which may very well be the most complicated concept in the system. Marx and Engels wrote most extensively on the concept of "consciousness" in *Die Deutsche Ideologie* (1846/1932). The concept seems to refer to the more spiritual parts of social reality: to social traffic rules, to theories and ideas, and to language:

die Sprache *ist* das praktische, auch für andre Menschen existierende, also auch für mich selbst erst existierende wirkliche Bewußtsein, und die Sprache entsteht, wie das Bewußtsein, erst aus dem Bedürfnis der Notdurft des Verkehrs mit andern Menschen. (p. 30)

"Consciousness" then is culture, is meta-behaviour \mathbb{M} , but as subsets of \mathbb{M} were already conceptualised differently, as "material relations" and "superstructure", "consciousness" is more or less a remainder category: $\mathbb{M} - (\mathbb{P}_{\text{PCD}} \cup \mathcal{U}_{\text{leg.pol}})$. Combining all of the above in a single formula results in:

$$\mathbf{T7.4^*} \quad [\Delta\mathbb{P}_{\text{PCD}} \Rightarrow^s \Delta\mathcal{U}_{\text{leg.pol}}] \Rightarrow^s \Delta(\mathbb{M} - (\mathbb{P}_{\text{PCD}} \cup \mathcal{U}_{\text{leg.pol}})) .$$

However, in volume three of *das Kapital*, Marx (1894, p. 800) writes that, under the influence of natural circumstances, race (or culture; see § 3.3.2) and other 'external' influences, there can be infinitely many variations of the base. This can be interpreted in two ways: (1) culture (race) and nature influence the base; or (2) culture (race) and nature are part of the base. The first interpretation corresponds with the dialectical character of HM, that was lost in the mechanical codification by Plekhanov and Stalin. However, Engels's claim that 'die Rasse is selbst ein ökonomische Faktor' (1894, p. 206) strongly points at the second interpretation. Base then should be redefined as the combination of all meta-behaviour related to PCD and the set of all actual entities (including natural objects and events and actual behaviour), similarly related to PCD: $\{\Phi, \mathbb{M}\}_{\text{PCD}}$, which would replace T7.4* by:

$$\mathbf{T7.5^*} \quad [\Delta\{\Phi, \mathbb{M}\}_{\text{PCD}} \Rightarrow^s \Delta\mathcal{U}_{\text{leg.pol}}] \Rightarrow^s \Delta(\mathbb{M} - (\mathbb{M}_{\text{PCD}} \cup \mathcal{U}_{\text{leg.pol}})) .$$

This still is not the final translation of HM as two more amendments are necessary. In *die Deutsche Ideologie* Marx and Engels (1846/1932) wrote that it is not just the legal and political rules and institutions that are determined by the economic base, but that ideology as a whole is materially (economically) determined. The concept of "ideology" to Marx and Engels referred to the whole of (philosophical and scientific) ideas, theories, categories and beliefs on politics and society. Superstructure can, hence, be interpreted as institutionalised ideology $(\mathbb{C} \cup \mathbb{T} \cup \mathcal{U})_{\text{leg.pol}}$ or even as the whole of legal and political meta-behaviour $\mathbb{M}_{\text{leg.pol}}$.

Secondly, the dialectical character of the causal relationships in HM implies that for each \Rightarrow^s there is a weak causal relationship in the opposite direction. The two directions of causality coincide with Mao's (1937) distinction between principal and non-principal contradictions. These two final amendments result in the replacement of T7.5* with:

$$\mathbf{T7.6} \quad [\Delta\{\Phi, \mathbf{M}\}_{\text{PCD}} \stackrel{w}{\Leftrightarrow} \Delta \mathbf{M}_{\text{leg.pol}}] \stackrel{w}{\Leftrightarrow} \Delta(\mathbf{M} - (\mathbf{M}_{\text{PCD}} \cup \mathbf{M}_{\text{leg.pol}})) .$$

Many theories can be derived as subtypes of T7.6. Only relatively few of these can be found in the works of Marx and Engels themselves and should, therefore, be considered to be part of the core of Marxian HM. The most important theory of HM was that on the determination of legal and political superstructure and ideology by the means of production: 'Die Handmühle ergibt eine Gesellschaft mit Feudalherren, die Dampfmühle eine Gesellschaft mit industriellen Kapitalisten' (Marx 1847, p. 130):

$$\mathbf{T7.7} \quad \Delta \mathbf{M}_{\text{prod}} \Rightarrow^s \Delta \mathbf{M}_{\text{leg.pol}} ,$$

which was further illustrated by Engels in his *der Ursprung der Familie, des Privateigentums und des Staats* (1884; see also § 3.4.2 and § 7.4.1).

The quote at the beginning of this chapter and the phrase that 'ihr gesellschaftliches Sein, das ihr Bewußtsein bestimmt' (Marx 1859, p. 9) are best formalised as T7.6, but are often interpreted as:

$$\mathbf{T7.8} \quad \Delta\{\mathbf{B}, \mathbf{M}\}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M} - (\mathbf{M}_{\text{PCD}} \cup \mathbf{M}_{\text{leg.pol}})) , \text{ or even as:}$$

$$\mathbf{T7.8a} \quad \Delta \mathbf{B}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M} - (\mathbf{M}_{\text{PCD}} \cup \mathbf{M}_{\text{leg.pol}})),$$

which both can be derived from T7.6, but both exclude the intermediate $\mathbf{M}_{\text{leg.pol}}$. However, Marx' and Engels' writings on the subject suggest the influence of $\mathbf{M}_{\text{leg.pol}}$ on $\mathbf{M} - (\mathbf{M}_{\text{PCD}} \cup \mathbf{M}_{\text{leg.pol}})$ is not nearly as important as that of $\{\mathbf{B}, \mathbf{M}\}_{\text{PCD}}$ and hence, that T7.8 is, next to T7.7 the most important sub-theory of HM.

The dialectical nature of HM is expressed in the bi-directionality of the causal process. This implies that next to T7.7 and T7.8 there is a weaker T7.9 in the opposite direction:

$$\mathbf{T7.9} \quad \Delta(\mathbf{M} - (\mathbf{M}_{\text{PCD}} \cup \mathbf{M}_{\text{leg.pol}})) \Rightarrow^w \Delta\{\mathbf{B}, \mathbf{M}\}_{\text{PCD}} ,$$

which can be derived from T7.6 and is a formal translation of Marx's and Engels's scattered remarks on the influence of culture on the economy (see § 3.4.1).

7 / 2 / 2 / stages and modernisation

HM is historically related to stage theories and modernisation theories. Some stage theories pre-date HM and like HM, suggest that the history of man is a series of socio-economic stages. Modernisation theories, on the other hand, are mostly (but not exclusively) interpretations and reinterpretations of T7.8. Whether a stage theory is relevant as a theory of the CED is dependent on the nature of the stages and on the causes of stage transfer: the question about what drives the historical process. In this section, some of the most important stage theories in which the stages are (at least partly) cultural and the system's engine is (at least partly) economic are dealt with briefly. In addition, some modernisation theories and other theories (in some way) similar to GT1 are described. Theories are dealt with in chronological order (mainly).

One of the first influential stage theories that could be interpreted as related to the CED is Vico's (1725/44; see § 3.2.2). Vico stated that: 'the order of ideas must follow the order of institutions' (§ 238). Different stages in the history of man are characterised by different orders of ideas (values, ideas, theories, etc). The process of development through these stages is driven by changes in the order of institutions. The latter is the way a society deals with nature and natural resources and with their technological possibilities as a means of subsistence: \mathbb{P}_{SNT} . (Note that both \mathbb{P}_{PCD} , as one of many possible definitions of "economy", and the traditional interpretation of culture as tilling or the transformation of nature $\mathbb{P}_{\text{trans.nat}}$ (see § 5.2.4) are subsets of \mathbb{P}_{SNT} .) According to Vico, the order of institutions determines the state of the economy, although he did not and could not use this term (see § 3.4.3), which in its turn determines the order of ideas, the values, ideas, theories, etc. $\mathbb{T} \cup \mathcal{N}$ of a society:

T7.10 $\Delta \mathbb{P}_{\text{SNT}} \Rightarrow^s \Delta (\mathbb{T} \cup \mathcal{N})$, or alternatively:

T7.10a $\Delta \mathbb{P}_{\text{SNT}} \Rightarrow^s \Delta \mathbb{B}_{\text{PCD}} \Rightarrow^s \Delta (\mathbb{T} \cup \mathcal{N})$.

Similar ideas have been expressed by numerous scientists in different ages. For example, in the 18th century (but after Vico) by Smith (1765) and relatively recently by Harris (1979), an anthropologist strongly influenced by Marx. In his *the theory of moral sentiments*, Smith (1765) wrote that:

Every age and country look upon that degree of each quality, which is commonly to be met with in those who are esteemed among themselves, as the golden mean of that particular talent or virtue. And as this varies, according as their different circumstances render different qualities more or less habitual to them, their sentiments concerning the exact propriety of character and behaviour vary accordingly. (Smith 1765, p.204)

Smith's basic idea is very similar to Vico's, but he focuses on values rather than on theories and ideas. (The difference was probably the result of a difference in focus as Smith was a moral philosopher and Vico a philosopher of history and culture.) Hence:

$$\mathbf{T7.11} \quad \Delta \mathbb{P}_{\text{SNT}} \Rightarrow^s \Delta \mathcal{N} .$$

Vico and Smith can be considered to be part of the prehistory of GT1. To some extent (however small) influenced by their works, Marx (and Engels) developed historical materialism in the middle of the 19th century. Only at the end of the century were new theories forwarded. Many of these, however, were influenced, or at least inspired, by Marxian historical materialism. Durkheim (1893), for example, argued that the division of labour (under certain circumstances Φ) can result in *anomie*, a nihilist decline of social values and norms in favour of egotism and individualism:

$$\mathbf{T7.12} \quad \Delta \{ \Phi, \mathbb{P}_{\text{div.lab}} \} \Rightarrow^s \Delta \mathcal{N}_{\text{anomie}} .$$

A few years later Simmel (1900) claimed that a money-based economy results in a (stronger) division between business and social life, which results in more personal freedom and weaker ties between the individual and the group. Hence, the institution of money promotes individualism, but a egotistic, heartless kind of individualism: 'die ganze Herzlosigkeit des Geldes spiegelt sich so in der sozialen Kultur, die von ihm bestimmt wird' (Simmel 1900, p. 468). (Simmel was hardly the first to point at the social influences of money. Nearly three centuries earlier, Shakespeare (1623), for example, described money as both god and whore.)

$$\mathbf{T7.13} \quad \Delta \mathcal{I}_{\text{money}} \Rightarrow^s \Delta \mathcal{N}_{\text{individualism}} .$$

Most of the modernisation theories were forwarded in the second half of the 20th century. One of the first, Lewis (1955), argued that economic growth is both cause and effect of individualism:

$$\mathbf{T7.14a} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Leftrightarrow \Delta \mathcal{N}_{\text{individualism}} .$$

This theory, however, was part (or a special case) of a much wider theory of the CED. According to Lewis, values and norms determine institutions. Together these influence and are influenced by the state of the economy:

$$\mathbf{T7.14} \quad \Delta \mathbb{B}_{\text{PCD}} \Leftrightarrow [\Delta \mathcal{N} \Rightarrow \Delta \mathcal{I}] .$$

Similarly, but more explicit on the strength of the causality in both directions, Hirschman (1986) claimed that:

$$\mathbf{T7.15} \quad \Delta \mathbb{B}_{\text{PCD}} \stackrel{w}{\Leftrightarrow^s} \Delta \mathcal{N}$$

In *The stages of economic growth* (1960), subtitled: *a non-communist manifesto*, Rostow presented a version of the CED that, nevertheless, seems to be very similar to the Marxian version. Rostow claims that the development of societies through five socio-economic stages is dependent on technological and economical possibilities and that social structure is the product of economic structure, economic limits and the methods of production:

$$\mathbf{T7.16} \quad \Delta \{ \mathbb{B}_{\text{PCD}}, (\mathbb{P} \cup \mathbb{T})_{\text{PCD\&tech}} \} \Rightarrow^s \Delta \mathbb{M} .$$

Novack and Lekachman (1964) presented an extremely down-to-earth argument for the influence of the economy on (aspects of) culture:

As the early twentieth century English economist P.H. Wicksteed put it, “A man can be neither a saint, nor a lover, nor a poet, unless he has comparatively recently something to eat.” Of nations it might be said that political enlightenment, social compassion, and cultural achievement are at least made possible by the attainment of minimal standards of diet, clothing, and shelter. Social progress is contingent upon economic development. (p. 1)

Hence:

$$\mathbf{T7.17} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \Delta \mathbb{T} .$$

The effects of wealth on fertility in developing countries were studied by Simon (1974). He found that increased wealth leads to some increase of fertility on the short term, but to a much larger decrease on the longer term. There is a time lag between the economic and the socio-cultural change of approximately two to three decades.

$$\mathbf{T7.18} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s -\Delta \mathcal{H}_{\text{fertility}} .$$

Strongly influenced by Marxism, Bell (1974) argued that increasing wealth results in a decreasing work ethic. Later, Bell (1976) revived the Marxian thesis that capitalism leads to alienation (see § 3.4.1).

$$\mathbf{T7.19} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s -\Delta \mathcal{N}_{\text{work-ethic}} .$$

$$\mathbf{T7.20} \quad \Delta \mathcal{I}_{\text{capitalism}} \Rightarrow^s \Delta \mathcal{N}_{\text{alienation}} .$$

Probably the most important modernisation theory (and one of the most influential at least) is Inglehart's (1977; 1990; 1997), which is partly based on Harris's (1973) *anguish of change*. Harris found that people with lower income and lower education are more conservative and that groups with higher income and more education have less materialist values and are less focused on economic wellbeing. The latter groups strive for political, social and ecological change rather than for material wealth. Inglehart (1977; 1990) labelled this tendency 'post-materialism', but later (1997) he changed this into the more fashionable 'postmodernism' (see also § 6.2.1). Increasing wealth not only leads to increasing post-materialism, but also deteriorates the social base of religion (Norris & Inglehart 2004). Religion – or at least the need thereof – is related to poverty. As religion often is a prime source of conservatism, its deterioration further reinforces the rise of postmaterialism. Inglehart's explanation of the rise of post-materialism or 'postmodernisation' is remarkably similar to Novack's and Lekachman's down-to-earth argument briefly quoted above:

The values of Western publics have been shifting from an overwhelming emphasis on material well-being and physical security toward greater emphasis on the quality of life. The causes and implications of this shift are complex, but the basic principle might be stated very simply: people tend to be more concerned with immediate needs or threats than with things that seem remote or nonthreatening. (Inglehart 1990, p.5)

Postmodernization is a shift in survival strategies. It moves from maximizing economic growth to maximizing survival and well-being through lifestyle changes. Once industrialization had become possible, Modernization focused on rapid economic growth as the best way of maximizing survival and well-being. But no strategy is optimal for all times. Modernization was dramatically successful in raising life expectancies, but it has begun to produce diminishing returns in advanced industrial societies. Emphasizing competition, it reduces the risk of starvation, but increases psychological stress. With the transition from Modernization to Postmodernization, the trajectory of change has shifted from maximizing economic growth to maximizing the quality of life. (Inglehart 1997, p.66)

According to Inglehart, post-materialists are a small but growing minority in most (Western) societies, especially among the higher middle class. The growth of this minority and their influence on society is determined by the growth of material wealth with a 30-years time lag:

T7.21 $\triangle \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \triangle \mathcal{N}_{\text{post-materialism}}$.

Interestingly, this theory claims that the wealthier a society is, the less it strives for wealth, and hence, a further increase thereof is appreciated. It could, therefore, be interpreted as a special case of Marshallian (1890) marginality.

Recently, Inglehart and Baker (2000) introduced two new, but related measures of cultural difference: the *traditional - rational* dimension and the *survival - self-expression* dimension (both are strongly related to post-materialism). These two dimensions, according to Inglehart, cover the whole of the variety in basic cultural value orientations. Economic development promotes rationality and self-expression; economic decline causes a stronger focus on tradition and survival:

$$\mathbf{T7.21a} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \Delta \mathcal{N}_{\text{ratio/self-ex}} .$$

This, however, does not (necessarily) mean that all cultural difference between social groups is lost in the process of economic development as 'economic development tends to push societies in a common direction, but rather than converging, they seem to move on parallel trajectories shaped by their cultural heritages' (Inglehart & Baker 2000, p. 49).

The individualism - collectivism dimension is usually regarded to be one of the most basic dimensions of culture. Its importance is illustrated in chapter 6 by the five dimensions of regional culture found, which all seem to be related to some kind or aspect of individualism, and by the fact that individualism is cause and/or effect in many of the theories presented in this chapter.

A number of theorists proposed explanations for (national) differences in this dimension. Above, it was mentioned that Simmel (1900) regarded the institution of money as cause of individualism, and Lewis (1955) assumed that economic growth was (and is) responsible for the growth of individualism. More recently, Kim (1994) argued that the level of individualism in a society is dependent on the way that society deals with nature and natural resources and with their technological possibilities as a means of subsistence \mathbb{P}_{SNT} (see also Vico above). Berry (1994), on the other hand, asserted that a society's level of individualism is determined by the methods of production. Hunting and gathering and agriculture tends to result in collectivism, while industrial societies are more individualist.

$$\mathbf{T7.22} \quad \Delta \mathbb{P}_{\text{SNT}} \Rightarrow^s \Delta \mathcal{N}_{\text{individualism}} .$$

$$\mathbf{T7.23} \quad \Delta \mathbb{P}_{\text{prod}} \Rightarrow^s \Delta \mathcal{N}_{\text{individualism}} .$$

(Note that as $\mathbb{P}_{\text{prod}} \subset \mathbb{P}_{\text{SNT}}$, Berry's theory (T7.23) is more specific than Kim's (T7.22).)

Several scientists studied the influence of the economy on political and politico-economic institutions. Inglehart (1988) argued that economic growth leads to democratisation. Douthwaite (1992), on the other hand, showed that past a certain point, the interests of the economically powerful change and further economic growth leads to growing control of the state on all aspects of life. The current increase of power of secret services in Western countries, for example, cannot be explained by the September 11th terrorist attacks in New York alone; the process started years earlier.

Inglehart's and Douthwaite's theories are not necessarily contradictory but (may) apply to different periods and conditions. In earlier stages of capitalism, increasing wealth lead to a growing and increasingly powerful middle class, which in turn, demanded and supported democratisation. In later stages powerful multinationals and other large corporations increasingly prefer(red) security over democracy. This relationship between economic power and political institutions is one of the most obvious interpretations of HM (and was indeed suggested by Marx and Engels; see also preceding section).

As Inglehart and Douthwaite both assume economic change affects the political institutions, the general theory seems to be:

$$\mathbf{T7.24} \quad \Delta\{\mathbf{B},\mathbf{M}\}_{\text{PCD}} \Rightarrow \Delta\mathcal{I}_{\text{pol}} .$$

Politico-economic institutions are generally supposed to influence the economy. Economic freedom, for example, is often assumed to promote economic growth (*e.g.* Dollar 1992; Sachs & Warner 1995; de Haan & Sturm 2000; see also § 7.5.3). Rather historically specific, but nevertheless of interest in this respect, was Westermann's (1915) theory on the causes of the decline of ancient culture: 'it was the loss of economic freedom, even more than the loss of political freedom, which had such disastrous results upon private initiative and finally undermined the ancient Graeco-Roman civilization' (p. 743).

Despite the general consensus on causality running from economic freedom to economic growth, an increasing number of economists and economic historians (*e.g.* Gerschenkron 1962; Scott 1997; Chang 2002) found the opposite relationship: an increase in wealth results in an increase in economic freedom:

$$\mathbf{T7.25} \quad \Delta\mathcal{V}(\mathbf{B}_{\text{PCD}}) \Rightarrow \Delta\mathcal{I}_{\text{econ.free}} .$$

This latter theory seems to be far away from the CED in a more traditional interpretation. However, if culture is defined such that it includes institutions, it also includes the institutions related to economic freedom. Hence, due to the possible conceptual overlap of "culture" and "economy", economic institutions (such as economic freedom) could end up at both sides of the formula.

7 / 2 / 3 / summary

The number of possible causes and effects that can be labelled as "economy" and "culture" respectively is astonishing. In the theories of CED presented in this section there are thirteen different versions of economy and sixteen interpretations of culture (see table 7.1). Note that, the labels of "culture" and "economy" were not used by all of the original theorists (or even could be; see chapter 3) and not all of these theories are, strictly speaking,

special cases of T7.3 since in rare occasions the economic pole is conceptualised even more widely than in T7.3).

Although many variants of GT1 have been described briefly in this section, infinitely more exist and/or can be imagined. Not all possible variants are equally important, however. The most important, most influential theories (variants of GT1) are (1) the economic determination of political change (T7.7) and the influence of wealth on cultural values, specifically individualism (T7.14a) and post-materialism (T7.21).

While the theories above assume that the economy influences or determines aspects of culture, the next section deals with theories that suggest the opposite relationship: the influence of culture on economic behaviour and economic development.

table 7.1: *concepts of "culture" and "economy" in the first grand theory*

economy (cause)		culture (effect)
$\{\Phi, \mathbb{M}\}_{\text{PCD}}$	1	\mathbb{M}
$\{\mathbb{B}, \mathbb{M}\}_{\text{PCD}}$	2	$\mathbb{M} - \mathbb{P}_{\text{PCD}}$
\mathbb{B}_{PCD}	3	$\mathbb{M} - (\mathbb{M}_{\text{PCD}} \cup \mathbb{M}_{\text{leg.pol}})$
$\mathcal{V}(\mathbb{B}_{\text{PCD}})$	4	$\mathbb{M}_{\text{leg.pol}}$
\mathbb{M}_{PCD}	5	$\mathbb{T} \cup \mathcal{N}$
\mathbb{P}_{PCD}	6	\mathbb{T}
\mathbb{M}_{prod}	7	\mathcal{N}
\mathbb{P}_{prod}	8	$\mathcal{N}_{\text{individualism}}$
\mathbb{P}_{SNT}	9	$\mathcal{N}_{\text{post-materialism}}$
$(\mathbb{P} \cup \mathbb{T})_{\text{PCD\&tech}}$	10	$\mathcal{N}_{\text{ratio/self-ex}}$
$\mathbb{P}_{\text{div.lab}}$	11	$\mathcal{N}_{\text{work-ethic}}$
$\mathcal{I}_{\text{money}}$	12	$\mathcal{N}_{\text{anomie}}$
$\mathcal{I}_{\text{capitalism}}$	13	$\mathcal{N}_{\text{alienation}}$
	14	\mathcal{I}_{pol}
	15	$\mathcal{I}_{\text{econ.free}}$
	16	$\mathcal{H}_{\text{fertility}}$

7 / 3 / the second grand theory

The second grand theory (GT2) is a label for the set of theories on the influence of culture on entrepreneurship and/or economic growth. The classical theorist of GT2 is Weber (1905; 1915), but as is the case with GT1, there is a prehistory as well. In one of his many letters, Engels (1888), for example, made a rather casual remark about the importance of a 'fiebrhafte Spekulationsgeist' (p. 93) for economic development (see § 3.4.1), which suggests that the idea of a culturally different entrepreneurial spirit was already rather

common in his days. The bulk of explicit theoretical and empirical studies on GT2, however, was published in the last three decades

The general, most common, form of GT2 is:

$$\mathbf{T7.26} \quad \triangle \mathcal{N} \Rightarrow \triangle \mathbb{B}_{\text{entrepreneurship}} \Rightarrow \triangle \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) ,$$

or, in words, a specific change in values leads to an increase in entrepreneurial behaviour, which, in turn, leads to (an increase in) economic growth.

As explained in subsections 3.5.1 and 6.3.2, "entrepreneurship" is not a singular and/or unambiguous concept. In subsection 3.5.1, five basic aspects of the entrepreneurship were distinguished: (1) risk, (2) profit, (3) management, (4) the use or investment of capital, and (5) the creative or innovative aspect. All definitions and interpretations of entrepreneurship are differently weighted combinations of some of these aspects. Generally, new firm formation or start-ups and innovation are considered to be the most important effects and indicators of entrepreneurship (*e.g.* Wennekers & Thurik 1999).

Many theories on the influence of culture on entrepreneurship are *not* particularly specific on what aspect(s) of entrepreneurship is supposed to be influenced. Moreover, different aspects and indicators of entrepreneurship are (or may be) differently influenced by culture. The hunger for profit, for example, is related to Inglehart's post-materialism (see § 6.2.1), and Douglas (1992; see also: Douglas and Wildlavsky 1982), argued that risk is a culturally determined collective construct.

The focus of this section is on the first part of the theory: the influence of culture on entrepreneurship:

$$\mathbf{T7.26a} \quad \triangle \mathcal{N} \Rightarrow \triangle \mathbb{B}_{\text{entrepreneurship}} .$$

Subsections 7.3.1 and 7.3.2 focus on the influence of religion on entrepreneurship as originally suggested by Weber (1905; 1915) and on the influence of (culturally different) values on entrepreneurship in general. Subsection 7.4.2 presents some empirical results related to these theories. The second part of T7.26:

$$\mathbf{T7.26b} \quad \triangle \mathbb{B}_{\text{entrepreneurship}} \Rightarrow \triangle \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) ,$$

the theory that increased entrepreneurial activity results in economic growth, is dealt with and tested in subsection 7.4.3.

7 / 3 / 1 / religion and entrepreneurship

While many of the 19th century scientists and philosophers, including Marx and Durkheim (see § 7.2), focused on the negative consequences of capitalism, in the early 20th century the attention shifted towards the historical roots and conditions for capitalism. Weber and Tawney, for example, sought to explain the rise of capitalism as the result of culture.

Weber was an economist turned sociologist and was strongly influenced by the German Historical School in economics. This school focused much more on the historical specificities that influence the economic process and much less on the formal mathematical models that became fashionable in neo-classical orthodoxy.

Weber was probably not the first to write about the possible relationship between Protestantism and capitalism or wealth, as the difference in wealth and entrepreneurial spirit between the Protestant countries of northern Europe and the Catholic countries of southern Europe had already been perceived by many others. However, Weber (1905) was the first to systematically analyse this relationship. He argued that, although Protestant theologians oppose the strive for wealth, Protestant asceticism may lead to economic success as it encourages people to rationally and systematically control their (economic) environment. Protestantism promotes both the entrepreneurial spirit and the work-ethic of employees. The latter is also due to the fact that Protestant theologians regard a *Beruf* (profession) to be an assignment from God (see also § 3.5.1).

Later Weber (1915) widened his analysis to include other religions. He compared Eastern and Western religions in their capacity to promote economic growth. The values of the different religions were fitted on a dimension ranging from asceticism to mysticism. In mystic religions, redemption demands a passive and contemplative way of life. In ascetic religions, on the other hand, redemption demands an active control of life. It is this asceticism and not rationality in general that promotes economic growth. While Confucianism and Protestantism are both rational, the first is mystic while the latter is ascetic. Hence, only the latter will result in capitalism.

Die radikale Konzentration auf gottgewollte Zwecke, der rücksichtslose praktische Rationalismus der asketischen Ethik, die methodische Konzeption sachlicher Betriebsführung, der Abscheu gegen den illegalen politischen, kolonialen, auf dem Buhlen um Fürsten- und Menschengunst ruhenden, Raub- und Monopolkapitalismus, im Gegensatz dazu die nüchterne strenge Legalität und die gebändigte rationale Energie des Alltagsbetriebs, die rationalistische Schätzung des technisch besten Weges und der praktischen Solidität und Zweckmäßigkeit statt der traditionalistischen Freude an der überkommenen Fertigkeit und der Schönheit des Produkts beim alten Handwerker, – alle diese unentbehrlichen "ethischen" Qualitäten des spezifisch modernen kapitalistischen Unternehmers und: die spezifische Arbeitswilligkeit des frommen Arbeiters: – dieser rücksichtslose, religiös systematisierte, in der jeder rationalisierten Askese eigentümlichen Art "in" der Welt und doch nicht "von" der Welt lebende Utilitarismus hat jene überlegenen

rationalen Fähigkeiten und damit jenen "Geist" des Berufsmenschentums schaffen helfen, welche dem Konfuzianismus und seiner weltangepaßten, das bedeutet aber: zwar rational, aber von außen nach innen, nicht, wie beim Puritanismus, von innen nach außen determinierten Lebensführung letztlich verschlossen blieb. (Weber 1915, p. 475)

Religions are systems of rules, institutions, values, ideas, beliefs and concepts. All parts or aspects of meta-behaviour are present in religions; hence, all of these aspects can be the cultural pole of the CED. In Weber's theory, it is a mixture of rules and values \mathcal{N} (asceticism) and theories and beliefs \mathbb{T} (theological teachings) that determine entrepreneurship:

$$\mathbf{T7.27} \quad \Delta(\mathcal{N} \cup \mathbb{T})_{\text{Protestantism}} \Rightarrow \Delta \mathbb{B}_{\text{entrepreneurship}} \cdot$$

(Note that T7.27 is not strictly speaking a special case of T26a as it includes \mathbb{T} .)

Other studies on the relationship between religion and entrepreneurship usually focus more strongly on values alone. Most of these studies, however, are not explicitly about religiously determined values, but about culturally different values in general. Whether religious teachings, on the other hand, (directly) influence entrepreneurial behaviour or economic behaviour in general is difficult to say, but does not seem likely.

The most important teachings of Islam, written down in the Quran, for example, seem to be written for merchants. For many of the rules specified in (mainly) the second Sura, there are exceptions that seem to be made especially for travelling merchants (which was not an unimportant source of income in the time and place of the origins of Islam). The Torah, the most sacred text of the Jews, does not speak negatively of commercial activity (as long as it is fair); the Bible, on the other hand, does in several occasions. Hence, if teachings were the primary aspect in religious influence on entrepreneurship (or the economy in general), this would suggest that Islam and Judaism have high levels of entrepreneurship and Christianity does not. (Of course religious teachings are not limited to the 'original' sacred text, but include many more commentaries and other writings. Nevertheless, sacred texts form the core of these religions and may therefore be used in this example.) Of course, reality is different. Indeed, Jews in many countries are famous (or infamous in some times and places) for their entrepreneurial spirit (*e.g.* Sombart 1911). (The Jewish scientific and philosophical spirit should not be underestimated as well: *at least* thirty of the (more important) theorists mentioned in this book, including Spinoza, Marx, Durkheim, Simmel, Wittgenstein and Sapir, were of Jewish origin.) However, this may not be caused by their religion but by the fact that Jews since the Diaspora generally were minorities in alien societies. Hoselitz (1960; 1964; see also Singer 1977) showed that these kinds of socially marginal groups often supply (relatively) much more entrepreneurs than their host societies because self-employment is often the only means to escape low social status and poverty.

In the case of Islam, a similar phenomenon is clearly visible in many European cities. (In many south-east Asian countries, the Chinese have similar positions as Jewish and Muslim

minorities in Europe. Indeed, in many of these countries, the Chinese are extremely entrepreneurial.) However, in Islamic countries entrepreneurship does not seem to be particularly thriving. According to Kuran (1995; 1997) and Lal (1998) this is not the effect of Islamic teachings, but of social pressures preventing change in many conservative societies, and of the etatism and dirigism common to many Islamic societies respectively. Hence, rules, values and institutions prevent entrepreneurship, not religious teachings. Similarly, within Christianity different value systems differently promote entrepreneurship. According to the historian Macfarlane (1978), both Protestantism and capitalism or entrepreneurship were the effect of rising individualism in England from the 13th century onwards (see also § 3.5.1). Religious teachings did not influence the economy, but were adapted, like the economy, to more fundamental cultural change: the growth of individualism. In this way, Macfarlane affirmed Tawney (1926), one of the first theorists to explicitly point at the influence of individualism on entrepreneurship and the rise of capitalism. According to Tawney, individualism promoted the rational organisation of industry necessary for capitalism, not Protestantism:

T7.28 $\triangle \mathcal{N}_{\text{individualism}} \Rightarrow \triangle \mathcal{B}_{\text{entrepreneurship}}$,

or, more completely:

T7.28a $\triangle \mathcal{N}_{\text{individualism}} \Rightarrow \triangle \mathcal{N}_{\text{rationalism}} \Rightarrow \triangle \mathcal{B}_{\text{entrepreneurship}} \Rightarrow \triangle \mathcal{I}_{\text{capitalism}}$.

The next subsection deals with studies on the influence of individualism and other value orientations on entrepreneurship.

7 / 3 / 2 / values and entrepreneurship

Over the last two centuries, many theories on the determinants of entrepreneurial behaviour have been proposed. The two classical economists that were most interested in entrepreneurship, Say (1803) and Marshall (1890), attributed it to personal characteristics, as did the most important early 20th century theorists of entrepreneurship, Knight (1921) and Schumpeter (1926).

Schumpeter was strongly influenced by Weber. Both saw the entrepreneur as entering traditional society and setting it in motion. Both regarded innovation to be the key aspect of entrepreneurship: 'The changes in the economic process brought about by innovation, together with all their effects, and the response to them by the economic system, we shall designate by the term Economic Evolution' (Schumpeter 1939, p. 86). The most important difference between Schumpeter and Weber is that to the latter, entrepreneurship is a social or cultural phenomenon, while to Schumpeter, it is purely individual. Schumpeter's entrepreneurs are motivated by some kind of Nietzschean *will to power*, not by cultural

values or ideas (e.g. MacDonald 1965; Kilby 1971). Hence, we'll see 'dasselbe Bild in seinen Grundzügen auf die Wirtschaftssubjekte ganz verschiedener Kulturen, und wir können uns darauf verlassen, daß die Bauer sein Kalb ganz so schlau und Rücksichtslos verwertet wie der Börsenmann sein Aktienpaket' (Schumpeter 1926, p. 118).

With exceptions for Weber and Tawney, theories on the relationship between cultural values, entrepreneurship and economic growth were mostly published after the Second World War. One of the first was Lewis (1955), mentioned before in subsection 7.2.2. According to Lewis, entrepreneurship and economic growth are ultimately caused by values (especially individualism), beliefs and institutions (which themselves are the product of the state of the economy) (see T7.14 and T7.14a in § 7.2.2). One of the best known post-Weberian theories of culture and entrepreneurship is McClelland's (1961). McClelland argued that entrepreneurship is determined by individual motivation. This individual motivation, however, is a social product. The key motivation is '*n* achievement' or 'need for achievement, which involves an interest in exercising skill in medium-risk situations and a desire for concrete signs of successful performance. This need (...) develops in the period of early socialization, when the child is exposed to self-reliance training and high standards of performance' (Smelser 1963/76, p.127). Entrepreneurship is associated with innovation, individual responsibility, the faculty to assess advice, and risk taking (but calculated and moderate risk, which needs skill to assess, only). All of these are related to *n* achievement. McClelland claims that societies with higher *n* achievement produce more active entrepreneurs which produce more and/or faster economic growth:

T7.29 $\triangle \mathcal{N}_{n\text{-achievement}} \Rightarrow \triangle \mathcal{B}_{\text{entrepreneurship}} \Rightarrow \triangle \Delta \mathcal{V}(\mathcal{B}_{\text{PCD}})$.

Hagen's (1962) theory is rather similar to McClelland's (1961) in that they both see the entrepreneur as a creative problem solver interested in practical and technological problems. According to Hagen, entrepreneurs are driven by a (subjective / perceived) duty to achieve, which is very similar to McClelland's need for achievement (or *n* achievement). In the 1960s and 1970s a number of other social scientists proposed theories on the relationship between cultural values and entrepreneurship. Most of these theories, however, were not particularly specific on the exact nature of causes and effects. Cochran (1960; 1965) asserted that entrepreneurship is determined by cultural values, social expectations and sanctions, and culturally determined education. The behaviourist Kunkel (1965) suggested that entrepreneurship is the result of social stimuli. Hoselitz (1969) maintained that cultural values influence innovation. Young (1971) claimed that entrepreneurship is the product of relationships within groups (social structure). And, finally, Wilken (1979) argued that entrepreneurship is influenced by economic and non-economic factors. The first including capital, labour, resources, technology, market and growth; the latter including ideology and the social status of entrepreneurship and entrepreneurs.

The most important development in the post-Weberian history of the CED was Hofstede's (1980) measurement of international differences in cultural value orientations. Hofstede distinguished four dimensions: (1) power distance (PDI); (2) individualism (IDV); (3) masculinity (MAS); (4) uncertainty avoidance (UAI) (see also § 6.2.1). These cultural values, according to Hofstede, explain more than half of the differences in economic growth between countries (*e.g.* Franke, Hofstede & Bond 1991). Later, Hofstede (1991) added a fifth dimension: long term orientation (LTO) or Confucian dynamic. This fifth dimension quickly became one of the most popular explanations of the fast economic growth of the East Asian 'tigers' (*e.g.* Japan, Korea, Taiwan). However, after the 1997 Asian financial crises, these theories experienced quick and silent deaths (*e.g.* Jones 2003). Many later theories of culture and entrepreneurship relate the latter to Hofstede's dimensions. A number of suggestions for these kinds of relationships can be found in Hofstede's (1991) own work. Low power distance (PDI) and individualism (high IDV), for example, are associated with initiative, which is an important aspect of entrepreneurship; similarly, masculinity (high MAS) is related to competition (versus co-operation); and uncertainty avoidance is related to risk aversion.

Both innovation and new firm formation or self-employment have been related to Hofstede's dimensions. Shane (1992; 1993) and Nakata and Sivakumar (1996) are examples of the former; Wildeman *et al.* (1999) is an example of the latter. Wildeman *et al.* (1999) found that self-employment is related to (1) low wealth, (2) high power distance (PDI), (3) high uncertainty avoidance (UAI), (4) dissatisfaction with society, (5) intolerance for 'abnormal' behaviour, and (6) dissatisfaction with personal existence:

Countries in which people are less satisfied with life as a whole have more self-employed. These are societies with larger power distance, stronger uncertainty avoidance, more bureaucracy, more corruption, and which are relatively poor. People in these countries are less satisfied with the way their democracy is functioning and with their society in general. Perhaps people in such countries are more easily forced into self-employment, as they cannot optimally develop themselves within existing structures and organisations. In other countries, people possibly have more opportunities to find an appropriate job within existing structures, and, as a result, are less inclined towards starting for themselves. (Wildeman *et al.* 1999, p. 41)

Shane (1992) and Nakata and Sivakumar (1996) suggested relationships between innovation and Hofstede's dimensions. Shane assumed that high power distance (PDI) has a negative effect on innovation (measured as 'per capita number of inventions patented by nationals'; p. 36) and individualism (IDV) has a positive effect. Although Shane found that:

the values of individualism and lack of power distance appear to explain differences in national rates of inventiveness. Since rates of inventiveness were measured as much as eight years after values, the causal link appears to run from values to inventiveness, not the other direction. (Shane 1992, p. 39)

The correlations found by Shane are, as he admits himself, however, hardly significant. Later, Shane (1992) added more countries and more of Hofstede's dimensions. This study confirmed the earlier one, but also showed a significant negative correlation between innovation and uncertainty avoidance (UAI).

Contrary to Shane, the approach chosen by Nakata and Sivakumar (1996) was purely theoretical. They distinguished two stages of new product development: initiation and implementation. The success of these two stages is differently related to all of Hofstede's initial four dimensions: each dimension has a positive effect on one stage and negative on the other. More specifically: individualism (IDV) positively influences the initiation stage and negatively influences the implementation stage, while for the other three (original) dimensions (PDI, MAS, UAI) it is the other way around.

Interestingly, the theories and results proposed and found by Hofstede (1980); Wildeman *et al.* (1999), Shane (1992; 1993) and Nakata and Sivakumar (1996) all seem to point at different directions. All dimensions may be related differently to different aspects of entrepreneurship. This was confirmed, for example, by Tiessen (1997), who found that on the individual (micro) level, entrepreneurs are more individualist than others, but that, on the macro level, both individualism and collectivism may promote entrepreneurship and economic growth:

Individualism is associated primarily with variety generation, one of the two entrepreneurial functions. Collectivism contributes mostly to the other, resource leverage. These cultural orientations are important as they affect how the functions are accomplished. Individualism drives the founding of new ventures and innovation, and gives rise to contract-based leverage. Collectivism, in contrast, fosters corporate entrepreneurship and resource leverage, or "stretch", by leading to efficient internal and external relations. (Tiessen 1997, p. 368)

Consequently, summarising these Hofstede-inspired theories in a single formula more specific than the general theory proposed in T7.26(a) above does not seem to be very useful.

While Hofstede-inspired research dominated the CED for many years, a number of recent contributions focus again on the micro level and pay more attention to the characteristics and motivations of entrepreneurs (as, for example, Schumpeter and McClelland did before; see above). Thomas and Mueller (2000), for example, define the entrepreneurial profile by four separate traits: (1) an innovative attitude; (2) risk-propensity and risk-tolerance; (3)

internal locus of control (belief in the personal influence on one's own life); and (4) energy level (working long hours). Empirical findings, however, suggest that regardless of culture, entrepreneurs are innovative and that the other three *are* culture-dependent, but are not necessarily related to entrepreneurship.

Begley and Tan (2001) pointed at the importance of the culturally determined social status of entrepreneurship and the entrepreneur, as did Wilken (1979) before (see above). Verheul *et al.* (2001) claimed that 'personal attitudes towards entrepreneurship are a 'product' of the current cultural environment' (p. 68). Beugelsdijk (2003) claims that this *entrepreneurial attitude* is related to attitudes towards individual effort and individual responsibility; government responsibility and government ownership; the unemployed and the causes of (economic) success (luck and connections vs. hard work and individual effort). The measure he proposes, however, seems to be a measure of liberalism (or liberal conservatism; see also § 6.2.2) more than of entrepreneurial attitude, although the two may be related.

In subsection 7.2.2 Inglehart's (1977; 1990; 1997) theory of rising post-materialism in industrial countries was briefly described. According to Inglehart, increasing wealth results in a rise of post-materialist values and an increasing share of post-materialists among the population. However, with an increase of post-materialism there will be a decrease of entrepreneurial activity: 'nations with high proportions of Postmaterialists show relatively low economic growth rates, for Postmaterialists emphasize economic achievement less than Materialists do, and they emphasize other kinds of achievement more' (Inglehart 1990, p.176). Hence, T7.21 can be completed as:

$$\mathbf{T7.21b} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \Delta \mathcal{N}_{\text{post-materialism}} \Rightarrow -\Delta \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) ,$$

in which the first part reflects GT1 and the second part clearly is a subtype of GT2.

7 / 3 / 3 / summary

GT2 assumes that either religion or cultural values strongly influences entrepreneurial behaviour. Values influence both the levels of new firm formation or self-employment and the rate of innovation. Entrepreneurship in turn is assumed to promote economic growth. The most important theories of GT2 are (1) Weber's theory on the influence of Protestantism on entrepreneurship and (2) the many theories on cultural values as similar determinants. The latter category includes different theories on different values (as causes) and different aspects of entrepreneurship (effects), such as the influence of individualism (Tawney), achievement motivation (McClelland) or post-materialism (Inglehart) on self-employment and/or innovation. The most important innovation in the CED itself was Hofstede's measurement of differences in cultural value orientations between 53 (groups of)

countries. This resulted in a much stronger focus on empirical studies in the CED. A brief overview of these is given in the next section.

Although most of the theories presented are not very explicit on what aspect (or which aspects) of entrepreneurship is (or are) supposed to be influenced by culture, it generally is implicitly assumed that entrepreneurship is – more or less – synonymous to self-employment. In other words, with the exception of theories that explicitly focus on other aspects of entrepreneurship (such as innovation), GT2 theories assume that some aspect of culture (some set of cultural values) influences self-employment:

T7.26c $\triangle \mathcal{N} \Rightarrow \triangle \mathcal{B}_{\text{self-employment}}$.

7 / 4 / a review of empirical tests

The bulk of empirical tests of the CED is related to the second grand theory (GT2). Numerous, often contradicting, studies on the influences of cultural values on entrepreneurship have been published. A selection of these will be presented in subsection 7.4.2. Empirical studies on the first grand theory (GT1) and *minor* theories are much rarer. This may be partly caused by the fact that GT1 is associated with Marxism, which went out of fashion in the late 1970s (except in geography, where Marxists and post-Marxists still have a near-monopoly on new theoretical developments in the field), and partly by differences in 'operationalisability'. The phenomena related in many GT2 theories are less difficult to measure than many of the phenomena related in GT1 theories. It is, for example, easier to statistically test the influence of masculinity as measured by Hofstede (1980) on the level of self-employment than to test whether a change in the economic institutions of a society causes a change in its political and legal institutions. History may suggest the latter, but it is very difficult to 'prove' statistically (or otherwise).

Easily operationalised subtypes of GT1, however, are the theories on the influence of wealth on cultural values, such as T7.14a (Lewis 1955) and T7.21 (Inglehart 1977; 1990; 1997). Subsection 7.4.1 briefly deals with some empirical studies on these theories. The following subsections deal with the two parts of GT2 (T7.26a in § 7.4.2 and T7.26b in § 7.4.3).

7 / 4 / 1 / wealth and cultural change

GT1 is very difficult to test. Some parts of it may even be untestable and therefore, unscientific (e.g. Popper 1935; 1957; see also § 8.3). What can be tested, however, is whether increasing wealth results in cultural change, whether wealthier societies are, for

example, more individualist and/or more post-materialist (see § 7.2.2). Franke, Hofstede & Bond (1991) found a relationship between national wealth and individualism such that:

$$\mathbf{T7.30} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow \Delta \mathcal{N}_{\text{individualism}} ,$$

which is a unidirectional version of T7.14a and may also be related to T 7.22 and T7.23 (see § 7.2.2). Their evidence, however, is not particularly strong. Similarly, Inglehart (1990; 1997) confirmed his theory that wealth produces post-materialism (T7.21). Furnham (1990) and Lynn (1991), however, did not find empirical confirmation for Bell's (1974) theory that increasing wealth results in a decreasing work ethic (T7.19).

Based on data from the World Values Survey (WVS) (which includes 65 societies and 75% of world population), Inglehart and Baker (2000) found evidence of both cultural change and persistence. Economic development results in changing values (more rational; more focused on self-development and self-expression), confirming T7.21a. Culture, however, is path dependent. The cultural heritage leaves an imprint on values that endures throughout the process of cultural change. Similarly, Beugelsdijk (2003) found that 'economic development is an important driver of value change, but there are persistent influences of cultural heritage' (p. 135).

Yang and Lester (2000) showed that the cultural trait of *extraversion* is significantly correlated with unemployment. (Extraversion is one of two factor scores (the other was neuroticism) based on a Factor Analysis on twelve variables (eighteen industrialised countries) related to psychosis, food and drugs consumption, suicide, murder, crime, etc. (all variables are generally considered to be 'negative') by Lynn & Hampson (1977). The factor labelled "extraversion" had strongest loadings on murder; crime; cigarette consumption; illegitimacy and accidents.) Strangely, Yang and Lester concluded that extraversion partly *explains* unemployment, suggesting a direction of the causality from extraversion to unemployment, while the opposite direction seems to be much more plausible (of course neither directions are 'proven' in the study; see § 7.1.1).

Historical materialism (HM), as the source of GT1, is more difficult to test statistically. The most important theories of HM were summarised above as:

$$\mathbf{T7.7_R} \quad \Delta \mathbb{M}_{\text{prod}} \Rightarrow^s \Delta \mathbb{M}_{\text{leg.pol}} , \text{ and}$$

$$\mathbf{T7.8_R} \quad \Delta \{\mathbb{B}_{\text{PCD}}, \mathbb{M}_{\text{PCD}}\} \Rightarrow^s \Delta (\mathbb{M} - (\mathbb{M}_{\text{PCD}} \cup \mathbb{M}_{\text{leg.pol}})) .$$

Modernisation theories such as T7.30 above are a special case of T7.8. Hence, the confirmation of the former is at least a partial confirmation of the latter (see also § 7.2). There may, however, be special cases of T7.8 that are less easily tested such as the theory that the means of production \mathbb{P}_{prod} determine the way of life $\mathbb{P}_{\text{other}}$ of a people. Both \mathbb{P}_{prod} and $\mathbb{P}_{\text{other}}$ seem to be measurable only as nominal variables. Moreover, the supposed spatio-

temporal scale of the relationship hardly allows sufficient data of satisfactory quality for statistical testing.

The same is true for T7.7, which is probably the best known part of HM. The rules, institutions, values, ideas, and so on of production \mathbb{M}_{prod} and the legal and political rules, institutions, and so forth $\mathbb{M}_{\text{leg.pol}}$ can both be measured only as nominal variables. Different configurations can be classified and labelled differently, but can hardly be measured quantitatively. Moreover, limited data quality and sample sizes do not allow for statistical testing.

The only viable method for testing HM seems to be historical research. The first attempt to do just that was Engels's (1884) *Der Ursprung der Familie, des Privateigentums und des Staats*, which was basically a HM reinterpretation of Morgan (1877) (although not much reinterpretation was necessary; see § 3.4.2). In this book, Engels tried to show that all human civilisations develop through a similar set of stages and that this development is driven by changes in \mathbb{M}_{prod} . Morgan's and Engels's model of development, however, was easily falsified by later anthropologists (Diamond & Belasco 1980), but this does not necessarily falsify T7.7. What was falsified was the assumed universal succession of specific stages, as many exceptions were found. What was not falsified, however, was the mechanism behind this apparently less universal succession. The development may not be as universal as Marx and Engels thought, but the claim that it is driven by economic changes, related to production especially, seems to be well-supported by historical evidence.

7 / 4 / 2 / cultural and other influences on entrepreneurship

Although hundreds of books and articles on the relationship between culture and entrepreneurship have been published over the last decades, few of these systematically assess more than a single theory. Two exceptions are the studies by Kilby (1971) and Lynn (1991). Kilby compared and tested seven versions of GT2: Weber (1905), Schumpeter (1926), McClelland (1961), Hagen (1962), Cochran (1965), Kunkel (1965), and Young (1971) (see § 7.3), and found that 'none of the theories can be judged to achieve an acceptable level of empirical verification. On the other hand, none of the theories can be rejected as demonstrably false' (p.19). Lynn (1991) tested Weber (1905), Schumpeter (1926), McClelland (1961), and Bell (1974) and also found little evidence for these theories.

Most of the empirical tests presented below can be divided in two broad categories depending whether they focus on the micro level of entrepreneurial personality or the macro level of the cultural environment of entrepreneurship. A recent example of the former type is Lazear's (2002) theory that entrepreneurs are *jacks-of-all-trades* that do not excel in a single skill, but are competent in many. This theory, however, conflicts with Smith's (1967) notion of the *craftsman entrepreneur*. Smith distinguished craftsman

entrepreneurs (CEs) and opportunistic entrepreneurs (OEs). The two types are different in background, education and have different reasons to become an entrepreneur. While the second type could be interpreted as a *jack-of-all-trades*, the first most certainly cannot. CEs are product oriented craftsmen and engineers; OEs are market-oriented businessmen. The two types are differently (and to different extents) influenced by culture: the OE is much more sensitive to socio-cultural aspects (such as social status) of entrepreneurship than is the CE.

While Smith (1967) only distinguished two types of entrepreneurial personalities, Birley and Westhead (1994) distinguished many more. There are great differences in reasons to start a firm, to become an entrepreneur. At least twenty-three reasons are mentioned in the literature. By means of Principal Components Analysis, Birley and Westhead grouped these in seven basic motivations (see table 7.2), most of which were already distinguished in earlier studies by Dubini (1988) and Scheinberg and Macmillan (1988).

Fourhundred-and-five cases (entrepreneurs) were clustered on these basic motivations, which resulted in seven types of entrepreneurs, or seven types of entrepreneurial personality. Table 7.2 presents both the typology of motivations and the typology of entrepreneurs. There was, however, no significant relationship between these typologies and the size or growth of the new firm. Moreover, there is no clear direct link between these typologies and culture.

table 7.2: *a typology of motivations and entrepreneurs*

type of motivation:	type of entrepreneur:						
	insecure	followers	status avoiders	confused	tax avoiders	community	unclassified
need for approval	X		X	X			
need for independence		x	x		X	x	
need for personal development		X				x	
welfare considerations				X		X	
perceived instrumentality of wealth						x	
tax reduction and indirect benefits				X	X		
need to follow role models		X		X			
number	104	49	169	15	18	49	1

Smaller Xs symbolise less important relationships.

Entrepreneurial characteristics often mentioned and related to culture are risk aversion and individualism. Tiessen (1997), for example, found that entrepreneurs are more individualist than others. McGrath, MacMillan and Scheinberg (1992) compared scores of entrepreneurs

and others on Hofstede's (1980) dimensions and found that entrepreneurs are more individualist (high IDV), more masculine (high MAS), score higher on power distance (PDI) and lower on uncertainty avoidance (UAI), which is related to risk-taking. Many studies confirmed that more risk-averse people are less likely to become entrepreneurs (*e.g.* van Praag 1996; Wagner & Sternberg 2004; Sternberg & Arndt 2004).

However, more than half of new start-ups in the US are the work of more than one person (the average is 2,2) (Reynolds 1991b; 1994), which seems to contradict the supposed individualist personality. Similarly, the fact that more than two-thirds of aspiring entrepreneurs in the US have another job at the same time (Reynolds 1994) refines the image of the entrepreneur as a risk-taker. It is, however, not just the notion of the entrepreneur as a risk-taker that may be a myth, but the identification of entrepreneurship with risk itself. As Hamilton noted half a century ago: 'there is nothing with less uncertainty and risk than modern production' (1956, p. 22).

It may very well be the case that there is no such thing as an entrepreneurial personality, that entrepreneurs cannot be distinguished from the general population based on personality, as was shown by, for example, Brockhaus (1980), Sexton and Kent (1981), and Gartner (1989). Moreover, the success of the new enterprises seems to be influenced more by the entrepreneur's motivation than by personal characteristics (*e.g.* Quince & Whittaker 2003). In fact, the personal characteristics of entrepreneurs have little impact on their businesses (*e.g.* Uhlaner & Thurik 2004).

The second broad category distinguished above consists of theories on the macro level of the socio cultural environment of the entrepreneur. This is the area of direct influence of religion and cultural values on national and/or regional levels of entrepreneurship. Subsection 7.4.1 briefly dealt with the question regarding which aspect of religion is (or could be) important in the CED: teachings or values. The latter seemed to be a more suitable candidate, as the influence of religious teachings seems to have little (direct) effect on economic behaviour. Inglehart and Baker (2000), however, showed that the difference in values between members of different religions within a society is much smaller than the difference in values between countries. In other words: cultural differences between nations are stronger than those between religions and in cross-cultural research, religious differences tend to disappear behind the national differences. Therefore, if there is an effect of religion or religiously determined values, this cannot be found in (empirical) studies on the (inter-) national level, but only on the regional level.

The relationships between Hofstede's (1980) dimensions of cultural values and entrepreneurship have been tested in a number of studies. Mentioned before were McGrath, MacMillan and Scheinberg (1992; see above), Tiessen (1997), Wildeman *et al.* (1999) and Shane (1992; 1993; for the latter three, see § 7.3.2). Correlations between Hofstede's dimensions and entrepreneurship as self-employment are hardly consistent. On the individual (micro) level both McGrath, MacMillan and Scheinberg (1992) and Tiessen (1997) found a positive correlation with individualism (IDV), but on a macro level this

effect was not found. The negative correlation on the individual level with uncertainty avoidance (UAI) found by McGrath, MacMillan and Scheinberg (1992) was shown to be positive on the macro level by Wildeman *et al.* (1999) and Wennekers *et al.* (2003).

Shane (1993; see also § 7.3.2) tested the relationship between Hofstede's dimensions and innovation. He found that individualism (high IDV), low power distance (PDI) and low uncertainty avoidance (UAI) promote innovation. Strangely, in Brons (2002), using some of the same data, no significant correlations were found (not even remotely). Correlating Hofstede's dimensions to Hinloopen's (2003) measures of innovation *efficiency* suggests that individualism (high IDV) negatively influences innovation efficiency, which also contradicts Shane's results, while there is a positive effect for masculinity (high MAS). In other words (and in conclusion), there are no consistent relationships between Hofstede's dimensions and innovation.

Hofstede's dimensions have been correlated to other aspects of entrepreneurial behaviour as well. In a study on the influence of culture on entrepreneurial strategies, for example, Steensma, Marino and Weaver (2000) found that more feminine (low MAS), collectivist (low IDV) and uncertainty avoiding (high UAI) societies are more inclined to engage in co-operative strategies.

The variety of studies and results suggests that every possible value (high or low) on any of Hofstede's dimensions positively influences at least one aspect of entrepreneurship.

Of course, Hofstede's dimensions are not the only cultural variables used in empirical analyses of GT2. In Brons (2002) it was found that post-materialism is negatively related to competitiveness and Uhlaner and Thurik (2004) showed that post-materialism is negatively and strongly related, while satisfaction with life is positively related to entrepreneurship. The latter finding contradicts an earlier study by Wildeman *et al.* (1999), which showed that self-employment is driven by dissatisfaction rather than the opposite (see § 7.3.2). Dakhli and de Clercq (2004), finally, found a negative relationship between norms of civic behaviour, defined by Knack and Keefer (1997) as the tendency to co-operate and to subordinate self-interest to that of society, and one specific measure of innovation: high technology export (measured as the percentage of high technology exports in total exports).

In subsection 7.3.1 it was mentioned that immigrants tend to have higher levels of self-employment than their host populations. This was empirically confirmed by (a.o.) Hoselitz (1964), Bates (1997), Borooah and Hart (1999), and Constant, Shachmurove and Zimmerman (2003). A recent newsletter of the Dutch Chambers of Commerce (KvK 2004) mentioned that the number of firms founded by immigrants rose by 44% in the period 1999-2003, while the number of firms founded by non-immigrants rose by only 2%.

Blanchflower (2004), however, showed that not all groups of immigrants have higher self-employment than the host population and Reynolds (1994) found little difference in self-employment between different ethnic groups in the US (which also seems to contradict the influence of culture on entrepreneurship in general).

Besides cultural causes of entrepreneurship, many other determinants have been studied. Again these can be divided in micro determinants, related to the person of the entrepreneur, and macro determinants related to the society, region or country. Micro determinants of entrepreneurship that proved to be relevant in (mostly) recent empirical tests include:

- (1) education (at least secondary) (*e.g.* Reynolds 1991a; 1994; van Praag 1996; Peters, Cressy & Storey 1999; Blanchflower 2004; Wagner & Sternberg 2004; Sternberg & Arndt 2004; Uhlaner & Thurik 2004);
- (2) age (most new entrepreneurs are in their mid-thirties) (*e.g.* Reynolds 1991a; 1994; Blanchflower 2004; Wagner & Sternberg 2004; Sternberg & Arndt 2004);
- (3) sex (men are more than twice as active as entrepreneurs than women) (*e.g.* Reynolds 1991a; Wagner 2004; Blanchflower 2004; Wagner & Sternberg 2004; Sternberg & Arndt 2004);
- (4) (un-) employment and household income (*e.g.* Reynolds 1994; Verheul *et al.* 2001; Wagner & Sternberg 2004; Sternberg & Arndt 2004);
- (5) parents or other role models (*e.g.* van Praag 1996; Wagner & Sternberg 2004; Sternberg & Arndt 2004).

Although much research into the influence of the socio-economic environment of new firm formation is anecdotal and theoretically weakly founded (*e.g.* Westhead & Wright 2000), many macro determinants, mostly on the regional level, have been suggested and tested. These macro determinants of entrepreneurship include:

- (1) urban agglomeration effects (*e.g.* Keeble & Walker 1994; Reynolds, Storey & Westhead 1994; Storey 1994; Brüderl & Preisendörfer 1998; Audretsch & Fritsch 2000), especially in case of earlier population growth (Keeble & Walker 1994); agglomeration effects often mentioned to be relevant include diversity of demand (*e.g.* Verheul *et al.* 2001); availability of capital (Keeble & Walker 1994); labour market conditions (Georgellis & Wall 2000); and the presence of relevant entrepreneurial and practical experience and tacit knowledge in the direct environment (Keeble & Walker 1994; Georgellis & Wall 2000);
 - (2) industrial and size structure of the population of existing firms (*e.g.* Keeble & Walker 1994; Verheul *et al.* 2001; Georgellis & Wall 2000);
 - (3) economic and technological development of the region (*e.g.* Verheul *et al.* 2001).
- (For a more thorough review of determinants of entrepreneurship and entrepreneurial success, see *e.g.* Schutjens and Wever 2000.)

7 / 4 / 3 / entrepreneurship and economic growth

The relationship between entrepreneurship and economic growth (T7.26b) is often assumed, but rarely investigated. Schumpeter (1926) argued that entrepreneurship is the most important cause of economic growth; Porter (1990) claimed that entrepreneurship is at

the heart of national advantage; and Baumol (1993) argued that economic growth both influences and is influenced by entrepreneurship and investment in innovation.

Wennekers and Thurik (1999) proposed a framework to research the relationship. In summary, this framework claims that personal, cultural and institutional conditions influence the level of entrepreneurship, which, through intermediate linkages such as innovation and competition, influences economic growth. Their review of the literature on the relationships between culture, entrepreneurship and economic growth in terms of this framework ends with a call for research on (a.o.) the impact of entrepreneurship on economic growth. North and Thomas (1973), on the other hand, suggest that such a research question would be superfluous as innovation, economies of scale, education, capital accumulation are not causes of growth; they *are* growth. In other words, the relationship is conceptual rather than causal (see also § 2.2.2, and § 8.3)

In a very recent working paper, Karlsson, Friis and Paulsson (2004) presented an overview of theoretical ideas and empirical studies on the relationship between entrepreneurship and economic growth. Three aspects of entrepreneurship that could (or should) positively effect economic growth were distinguished: (1) competition, (2) innovation, and (3) start-ups as a source of job-creation. Of these aspects, innovation may be the most important, but due to limited data availability, the research focus seems to be on start-ups. In the subsection of their paper on the effects of competition and innovation, Karlsson, Friis and Paulsson refer to only *one* empirical study on the relationship between competition and economic growth (Gerolski 1994) and *none* regarding the economic effects of innovation. They do however include several studies on the relationship between competition and innovation, but the results of these studies are rather inconsistent. In some studies, competition negatively influences innovation (*e.g.* Gort & Sung 1999), while in others (*e.g.* Gerolski 1994) the effect is positive. Limited data availability and the difficulties of measuring innovation and competition are probably the main causes of the very small number of studies on their effects on economic growth. While the effect of new firm creation – in theory – may not be the most important, the abundance of data available resulted in a truckload of empirical studies (for the same reason the only measure of entrepreneurship used in new empirical tests in this study is based on start-ups; see §§ 6.3.2 and 7.6.2). Nevertheless, empirical 'evidence' for the relationship between entrepreneurship and economic development is rare and can often be interpreted in many ways. The economic historian Cipolla (1974/81) found that:

Entrepreneurial activity is a necessary ingredient, but not a sufficient one. It is the human vitality of a whole society which, given the opportunity, comes into play and sets loose the creative responses of history. (p. 120)

Possibly, new firms create new jobs and innovations. Although Birch's (1979) exorbitant expectations of the job creation process by small firms are heavily criticised by (a.o.) Davis, Haltiwanger and Schuh (1996), new firms actually *may* create *some* new jobs (*e.g.* van Stel

& Diephuis 2004). In spite of the fact that less than one percent of all new firms in the Netherlands show a strong growth in the number of employees (Wever & Schutjens 1995), new firms create an average 2.3 jobs on the medium-term (Wever 1984) and 1.9 jobs on the long-term (Wever & Schutjens 1995). On the other hand, in Great Britain, van Stel and Storey (2004) did *not* find a consistently significant relationship. Very recent Portuguese research by Baptista, Escária and Madruga (2005) shows that in, the long run, new firms may cause some indirect job creation, mainly by promoting competition and innovation in a region. Table 7.3 orders a number of studies on the relationship between start-ups and job creation – including those mentioned – by their results.

table 7.3: *studies on start-ups and job creation*

positive effects	indeterminate	no effects
↳ Birch (1979)	↳ Audretsch, Carree &	↳ Davis, Haltiwanger &
↳ Wever (1984)	Thurik (2001)	Schuh (1996)
↳ Davidsson, Lindmark &	↳ van Stel & Storey (2004)	↳ Haltiwanger & Krizan (1999)
Olofsson (1994)		↳ Andersson & Delmar (2000)
↳ Baldwin & Picot (1995)		↳ Bednarzik (2000)
↳ Wever & Schutjens (1995)		↳ Blanchflower (2000)
↳ Carree & Klomp (1996)		
↳ Fölster (2000)		
↳ Audretsch <i>et al.</i> (2005)		

The table shows that there is no consistent 'evidence' for the assumed positive effect of new firm creation on employment growth (or economic growth). Not very informatively, Karlsson, Friis and Paulsson (2004) conclude that 'both small and large firms might be of importance for economic growth' (p. 17). Heshmati (2001) found that the empirical effects and the difference in empirical results in studies on the relationship between growth, size and age of firms are dependent mainly on the research methods and definitions chosen. Hence, conceptual analysis may be necessary here.

Whether new firms create significantly more jobs remains open for discussion. Most other assumed effects seem, however, to be just as indeterminate. Innovation, for example, may result in job creation as well. Firms with above-average research and development (R&D) show above-average growth in the number of jobs. Moreover, the social benefits of innovation are far greater than the private benefits for the innovating firm itself (Mansfield *et al.* 1977). These effects, however, are rarely limited to the region, country or place where the innovative activity was located.

Beugelsdijk (2003) found a positive relationship between 'entrepreneurial attitude' (which seems to be a measure of liberal conservatism more than of a tendency to entrepreneurial behaviour; see § 7.3.2) and economic growth. He did, however, not test the relationship of

entrepreneurial attitude to actual entrepreneurial behaviour; neither did he test the relationship between actual entrepreneurship and economic growth.

In two very recent studies (van Stel & Thurik 2004; van Stel, Carree & Thurik 2005), it was found that entrepreneurship *may* positively influence economic growth, but only under specific economic conditions. Entrepreneurship may play a different role in different stages of economic development. A similarly recent study by Fritsch and Mueller (2004) suggests that there are considerable time lags (of approximately eight years) in the effects of entrepreneurship on the economy and that the effects may both be positive and negative. Moreover, indirect effects such as improved competition and supply conditions may be more important than direct effects such as job creation.

Harvie (2003) suggested that self-employment may contribute to economic growth (in developing countries) not only by job creation, but also by raising incomes. He distinguished two types of micro-enterprises in East Asia: (1) livelihood enterprises, which are an important source of income for poor families, but which do not directly create employment and do not grow (however, the development and growth of the sector as a whole does generate more employment and alleviates poverty); and (2) growth-oriented micro-enterprises. Enterprises of the latter category have the potential to grow into small and medium enterprises and may become sustainable generators of income and employment. This second group, however, is much smaller and therefore far less influential on the economic well-being of the population as a whole.

7 / 4 / 4 / summary and conclusions

The brief overview of empirical studies presented above shows that some theories of the CED are more plausible than others. Some theories *seem* to be empirically confirmed while others are refuted or no final judgement can be passed. However, *none* of the tests presented conforms to the criteria for testing causal direction explained in subsection 7.1.1. Hence, even if a relationship is (or seems to be) confirmed, this does not automatically confirm the assumed direction of the causality, and if no relationship was found, this does not necessarily refute a theory as there may be a time gap between cause and effect different from the time between their measurement.

Moreover, limited possibilities to make categories operational make some GT1 theories, especially historical materialism (HM) itself, very difficult to test statistically. There seems to be historical evidence for Marx's claim that economic institutions (especially those regarded to the means of production) to some extent determine political institutions (T7.7), but the nature of the data makes more rigorous statistical testing impossible. Other aspects of GT1, such as the influence of wealth on individualism (T7.14a; T7.30) and on post-materialism (T7.21), on the other hand, seem to be empirically confirmed (or very plausible at least).

Testing GT2 has proven to be at least as difficult as testing GT1; albeit for different reasons. The above has shown that there does not seem to be a specific set of values that consistently promotes entrepreneurship. In fact it seems that every possible cultural value may promote at least one specific aspect of entrepreneurship. Moreover, the assumed relationship between entrepreneurship and economic growth cannot be confirmed as well. In 7.6 some further test results are explained. These further analyses are added for two reasons: (1) to investigate whether results described in this section can be improved, clarified, completed and/or confirmed (especially concerning the direction of causal relationships); and (2) to test whether similar results can be found at a very different spatial scale: that of Dutch municipalities. Before turning to these further tests, section 7.5 deals with some *minor* theories of the CED.

7 / 5 / *minor* theories of the CED

This section describes a number of *minor* theories of the CED. Of course, the term "minor" here does not imply that these theories do not live up to the same (scientific) standards as the theories presented before. It only refers to the fact that these theories do not seem to be related (either theoretically or historically) to the two grand theories and that they had less impact on the theoretical development of the CED.

Minor theories presented here include theories on embeddedness (§ 7.5.1), culturally specific *conditions* for economic growth (§ 7.5.2), and theories on the relationship between institutions and economic growth (§ 7.5.3), between culture and consumption (§ 7.5.4), and between geography, culture and economy (§ 7.5.5).

7 / 5 / 1 / embeddedness

Theories of embeddedness are not theories of causal relationships between culture and economy, but about the overlap therebetween. The theory was introduced by Polanyi (1947; 1977), who argued that the economy and economic behaviour is embedded in a socio-cultural environment, and was elaborated most influentially by Granovetter (1985). The basic idea is that all behaviour is socio-culturally embedded, which is most lucidly explained by Zukin and DiMaggio (1990):

When we say that economic behavior is “culturally” embedded, we refer to the role of shared collective understandings in shaping economic strategies and goals. Culture sets limits to economic rationality: it proscribes or limits market exchange in sacred objects and relations (...) or between ritually classified groups. (...) culture has a dual effect on

economic institutions. On the one hand, it constitutes the structures in which economic self-interest is played out; on the other, it constrains the free play of market forces. (p.17)

The idea is related to, for example, Schlicht's (1998) theory that all economic behaviour and processes depend on and are influenced by custom (which, as defined by him, is more or less synonymous to culture) and to the general idea presented in chapter 5, that behaviour is determined in a complex interaction of culture, nature and reason.

The theory of embeddedness has been adapted and applied in many ways. Behaviour is, for example, not just culturally, but also politically and economically embedded. Moreover, it is not just behaviour that is embedded but also – in some interpretations or adaptations of the theory – the (behaving) actors themselves. While the theory of the embeddedness of behaviour assumes that behaviour is co-determined by socio-cultural context, the idea of the embeddedness of actors, of people and organisations focuses on the links that tie these actors to their environment, to their socio-cultural context.

The two interpretations of the theory, of course, are not wholly independent. Actors are embedded in a context that co-determines their actions. The socio-cultural context or environment provides the rules, values, and so forth that are (or become) familiar to the actor and that guide his behaviour. The socio-cultural context provides a home and a sense of security for the actor. Beyond the own (familiar) socio-cultural context lay disembodiedness, fear and disorientation:

Der Durchschnittsmensch hat eine fast panische Angst vor dem, welcher von ihm, von seiner gewöhnlichen Lebensart verschieden ist. Apartheid, nur unter den Seinigen dahinleben, ist eine widerliche, aber fast organische Trägheit der Seele. (Steiner 2003, p. 39)

The notion of embeddedness of actors rather than of behaviour plays an important role in firm migration or relocation research. In recent decades, the dominant paradigm in firm relocation research shifted from neo-classical to behavioural and/or institutional. In the latter approaches, firms are considered to be embedded in a (a.o.) political, economic, social and cultural context. A recent overview of the literature (Pellenbarg, van Wissen & van Dijk 2002) shows that economic (*e.g.* supplier and customer relationships) and political (*e.g.* taxes and subsidies) embeddedness have been taken well into account. The socio-cultural embeddedness of firms, however, remains mostly ignored. (Although in rare cases the social networks of firms and/or entrepreneurs play a minor role in the analysis.)

Whenever a firm leaves the socio-spatial context it is embedded in, it has to re-embed in its new context to function properly after relocation. A move from one economic region to another often makes it necessary to enter into new supplier and customer relationships, hence to re-embed in a new economic context. Similarly, migration from one cultural region to another may require cultural re-embedding. In other words, boundaries (may) negatively influence relocation. The necessity to re-embed, economically, politically or otherwise, discourages firms to emigrate from the economic, political, and so forth region it

is located in. In this way embeddedness strongly influences relocation behaviour of firms. In Brons (2005) it was tested whether similar effects exist for cultural embeddedness of firms, whether cultural boundaries have a similar negative effect on relocation as economic and political boundaries. Empirical results showed that relocating firms tend to stay within their cultural region, even when controlled for distance. Hence, cultural embeddedness and cultural boundaries do influence relocation decisions. However, if a firm emigrates to and re-embeds in a new cultural region, the extent of cultural difference between these two regions does not really matter.

7 / 5 / 2 / cultural conditions for economic growth

The group of theories presented in this subsection is closely related to GT2. The essential difference is that GT2 assumes a direct influence of culture on entrepreneurship, while the theories below suggest indirect influences only. This kind of theory points at the importance of specific culturally determined *conditions* for entrepreneurship and/or economic growth rather than pointing at direct *causes* (and are therefore not formalised as such). Rostow (1953; see also § 7.2.2), for example, argued that economic growth is determined by a number of *propensities*, culturally determined value orientations related to fundamental and applied science, innovation, materialism, consumption, and so on. 'The propensities summarize the effective response of a society to its environment, at any period of time through its existing institutions and leading social groups; and they reflect the underlying value system effective within that society' (p.12).

Probably the most popular conditions for economic development are *social capital* and *trust*. The term "social capital" was introduced by Loury (1977; 1987) to refer to 'the set of resources that inhere in family relations and in community social organization and that are useful for the cognitive or social development of a child or young person' (Coleman 1990, p. 300). The idea of social capital has been developed most notably by Coleman (e.g. 1988; 1990). In a recent study, Beugelsdijk (2003) found that social capital positively influences economic development in a number of European regions. De Clercq and Dakhli (2003) researched the influence of social and human capital on innovation and did not find a consistent relationship.

One of the most outspoken advocates of the importance of trust for economic development is Fukuyama (1995), who states that trust is necessary for economic interaction, for markets and companies to function, and for economies to grow (see also Banfield 1958; Putnam 1993). Without trust, no (capitalist) economy; with little trust, a less effective economy. Trust, more or less, is the lubricant of the economy. Several scientists point at the importance of *civic culture*, a set of value orientations related to (a.o.) life satisfaction, political satisfaction and involvement, solidarity and trust. *Civic culture* promotes the political stability and democracy necessary for economic development (e.g. Inglehart 1988; Swank 1996; Putnam 1993; see also § 7.2.2).

Recently, Kockel (2002a) described the importance of the informal or *provisory* economy in facilitating economic growth in a number of ethnological studies in rural and urban areas in Ireland (mainly). Kockel's examples range from community-co-operatives and 'cooring' to social networks and casual companies. Throughout the book it is repeatedly shown that these institutions of the informal economy either influence the formal economy directly, by creating jobs and/or wealth, or indirectly, by facilitating development in the formal economy. Even in cases where informal economy has only very limited influence on the formal economy, its social impact is considerable. Although Kockel's *Regional culture and economic development* is mostly about the influence of the informal on the formal economy, the title is not just fashionable. Informal economy, as a specific set of rules, values, and so forth could very well be interpreted as a subset of culture. Moreover, 'in its earliest forms culture is an *economy*; a practical, utilitarian thing. Only in its late developments does it become a diversion' (Giddings 1903, p. 451); culture 'was the industry of primitive man' (p. 453). In other words: informal economy *is* culture.

Keating, Loughlin and Deschouwer (2003) pointed at the importance of culture as 'a framework for collective action and a rationale for social co-operation' (p. 187); and as a potential source for a positive or negative regional self-image, which influences and is influenced by economic development, possibly resulting in a vicious cycle. Similarly, Myrdal (1957) and Rostow (1960) argued that nationalism can promote economic development.

Culturally determined conditions for entrepreneurship rather than economic growth (or behaviour) in general were suggested by (a.o.) Porter (1990), Casson (1993) and Florida (1997; 2002). Porter (1990) pointed at the indirect influence of culture on the chances for entrepreneurial success:

Social norms and values affect the nature of home demand, for example, as well as the goals of managers and the way firms are organized. (...) Cultural factors are important as they shape the environment facing firms; they work through the determinants, not in isolation from them. Such influences are important ones to competitive advantage, however, because they change slowly and are difficult for outsiders to tap or emulate. Social and political history and values create persistent differences among nations that play a role in competitive advantage in many industries. (p.129)

According to Casson (1993), culture influences both inter-firm relationships (competition versus co-operation) and intra-firm relationships (organisational behaviour). Culture is an enforcement mechanism that substitutes internal self-supervision and internal socio-emotional sanctions for external supervision and legal sanctions. As such, it eases communication and co-operation between and of people with a similar cultural background. Casson's argument comes very close to Polanyi's (1958) distinction of tacit and codified knowledge; the latter being the more formal rules, knowledge, supervision and sanctions necessary wherever and/or whenever the former is insufficient. (see also § 4.2.1)

Polanyi's idea was also elaborated by Florida (1997; see also Morgan 1997), who claimed that the economic development of regions is (co-)determined by their learning potential, by the faculty to transfer knowledge, especially tacit knowledge, within a social group and to build upon this knowledge. More recently, Florida (2002) argued that creativity and social diversity promote economic growth. Cities (and regions) that better manage to attract the 'creative class' of artists, scientists, etc. have higher innovative potential and much better chances for economic growth. In a recent empirical study (Lee, Florida & Acs 2004), it was shown that social diversity and creativity indeed positively influence new firm formation.

7 / 5 / 3 / culture, institutions and development

A subset of the set of theories on the conditions for economic development focuses especially on the role of institutions in promoting economic growth. The general theory of the relationships between cultural values, institutions and economic development is:

$$\mathbf{T7.31} \quad \Delta\mathcal{N} \Rightarrow \Delta\mathcal{I} \Rightarrow \Delta\Delta\mathcal{V}(\mathbb{B}_{\text{PCD}}) .$$

Parsons and Smelser (1956), for example, argued that institutions reflect a culture's value orientations, and according to Greif (1994), culture – through path-dependence – determines the institutional structure of a society, which influences its economic success. Baptista (2004) maintains that institutions and government attitudes towards entrepreneurship are the result of cultural values and needs. Causality does not necessarily run from left to right alone. Tabellini (2004b), for example, argued that the cultural values that influence the economy are partly shaped by historical institutions:

$$\mathbf{T7.31a} \quad \Delta\mathcal{I} \Rightarrow \Delta\mathcal{N} \Rightarrow \Delta\Delta\mathcal{V}(\mathbb{B}_{\text{PCD}}) ,$$

and Orrù (1999) claimed that 'the market, the state, and the cultural system affect and shape each other' (p. 26). Rewriting T7.31 accordingly would result in something like:

$$\mathbf{T7.31b} \quad [\Delta\mathcal{N} \Leftrightarrow \Delta\mathcal{I}] \Leftrightarrow \Delta\Delta\mathcal{V}(\mathbb{B}_{\text{PCD}}) .$$

The first part of T7.31, $\Delta\mathcal{N} \Rightarrow \Delta\mathcal{I}$, is studied within a variety of scientific fields including sociology, history and institutional economics. Hamilton may have been of the most important theorists of the relationship between culture and institutions. According to Hamilton (*e.g.* 1955), economic thought itself is strongly influenced by political and religious institutions. The theory of the factors of production (labour, capital and land), for example, was not so much a theory of actual production, but an argument to legitimise class structure (workers, capitalists and landlords) and class income (Hamilton 1955).

Many of our economic institutions are cultural products. Hamilton (1956) showed that corporations are not the economic necessities they are often assumed to be, but are the product of our beliefs and ceremonial needs. Similarly, the figure of the entrepreneur is more of a mythical character than economic reality. The entrepreneur is a 'cultural hero':

ever alert in pursuing the main chance, respond[ing] to the wants by producing goods in just the quantity and quality that consumers desire them. The Entrepreneur takes on the qualities of a cultural hero who performs the miracles of production. He is a creative genius and master of ceremonies. (...) He has a creative role denied to any of the others including labor. (Hamilton 1957, p. 250)

Probably, it is this near-religious faith in our cultural heroes – rather than economic reality itself – that leads to the sustained belief in the positive influence of entrepreneurship on economic growth (see § 7.4.3).

Contributing to the theory of cultural influence on institutions, more recently, Mayda and Rodrik (2001) argued that (a.o.) values, identities and attachments are important in explaining differences in preference for (free) trade or protectionism; Semenov showed that national preferences for systems of industrial finance (Semenov 2000) and stock market development (de Jong & Semenov 2002) are culturally determined; and Johnson and Lenartowicz (1998) found a relationship between economic freedom and culture.

Regarding the inverse relationship of $\Delta\mathcal{I} \Rightarrow \Delta\mathcal{N}$ rather than $\Delta\mathcal{N} \Rightarrow \Delta\mathcal{I}$ (the grounding of cultural values in historical institutions), Tabellini (2004b) recently found that:

Historically more backward regions (with higher illiteracy rates and worst political institutions) tend to have more negative cultural values today: less trust, less respect for others, less confidence that individual's effort will deliver good results. Moreover, the component of culture explained by the historical variables is strongly correlated with current regional per capita income, (...). (p. 3)

The second part of T7.31, $\Delta\mathcal{I} \Rightarrow \Delta\Delta\mathcal{V}(\mathcal{B}_{PCD})$, is probably the only aspect of the CED that is studied by mainstream, orthodox economists. The institutions of subsidies, taxes and market structure are generally considered to have some (mostly negative) influence on the economy, which is usually 'proven' by means of a mathematical model. Fortunately some social scientists have expanded their studies beyond the borders of the mathematical model into the real world.

Before the birth of economic orthodoxy, Smith (1765) may have been one of the first to point at the importance of institutions for the economy. He argued that institutions such as taxes and subsidies (may) limit the market's potential to produce wealth. Moreover, Smith larded his *Wealth of Nations* with historical illustrations and examples including an extensive historical analysis of political and economic institutions and their effects on the economy from the end of the Roman Empire onwards. The growth of economic freedom in

some cities was, according to Smith, an especially important cause of their economic development.

Of all possible institutional determinants of economic development, economic freedom or openness is suggested most frequently (by far) (*e.g.* Dollar 1992; Sachs & Warner 1995; de Haan & Sturm 2000). The theory on the influence of economic freedom on economic growth is, however, also the one most strongly associated to political ideology. One of the best known institutes researching economic freedom, the Fraser Institute, for example, clearly and explicitly adheres to conservative liberalism. (Of course, economic theory itself is hardly free from political ideology and/or value neutral as was shown by *e.g.* Myrdal 1929; 1973; Hamilton 1955; Rosenberg 1999; Gandal *et al.* 2004.) This ideological background explains the vigour with which the theory is defended, a defence not unnecessary by the way, since economic historians (and some economists) keep finding the opposite causal direction in the relationship: an increase in wealth results in an increase in economic freedom, not the other way around (*e.g.* Gerschenkron 1962; Scott 1997; Chang 2002; see also § 7.2.2 and T7.25), or they find no discernible link between economic freedom and economic growth at all (*e.g.* Rodríguez & Rodrik 1999; Freeman 2002).

The second most popular institutional 'guarantee' of high economic growth probably is property rights. According to Tabellini (2004a), of all the things governments (could) do, only one really makes a difference between success and failure in economic development: (the institution of) the protection of property rights (see also Acemoglu & Johnson 2003).

Other institutions that are frequently assumed to promote economic growth include:

- (1) policies and institutions that encourage (or are at least perceived to do so) production of output rather than its diversion (through *e.g.* theft, corruption) (Hall & Jones 1999);
- (2) education (*e.g.* Higgins 1977; Barro 1991; Wharton 1999), although Easterly and Rebelo (1993) found no relationship between government spending on education and economic growth;
- (3) strong labour unions (Hicks 1988);
- (4) democracy (Adelman & Morris 1973; see also Persson & Tabellini 2003); and
- (5) political stability (Alesina *et al.* 1992; Barro 1991; see also § 7.5.2), which is, however, itself the product of wealth (Inglehart 1988).

The economic effects of macroeconomic policy, on the other hand, seem to be negligible except in the case of extremely bad policies (Easterly 2003), which is a symptom of weak (or instable) political institutions (Tabellini 2004a).

Generally, institutional explanations of economic differences should be dealt with cautiously due to the fact that different institutional settings have often been found to be reasonable substitutes for each other in promoting economic growth (Engerman & Sokoloff 2003). Moreover, many measures of economic institutions (including those by Dollar 1992 and Sachs & Warner 1995) have serious shortcomings and/or biases or are downright misleading (*e.g.* Rodríguez & Rodrik 1999).

7 / 5 / 4 / the culture of consumption

GT2 refers exclusively to entrepreneurial behaviour, to production and distribution. Hence, entrepreneurial behaviour $\mathbb{B}_{\text{entrepreneurship}}$ coincides with (or at least overlaps considerably) with productive and distributive behaviour $\mathbb{B}_{\text{prod.dist}}$, which makes it a subset of economy interpreted as \mathbb{B}_{PCD} . The remaining part then, would be consumptive behaviour $\mathbb{B}_{\text{consumption}}$. GT2 is far more specific than GT1. A more general theory of the influence of culture on the economy, a reversal of GT1, would be something like:

$$\mathbf{T7.32} \quad \Delta\mathbf{M} \Rightarrow \Delta\mathbb{B}_{\text{PCD}} ,$$

which can be decomposed into two more specific theories: $\Delta\mathbf{M} \Rightarrow \Delta\mathbb{B}_{\text{prod.dist}}$ and $\Delta\mathbf{M} \Rightarrow \Delta\mathbb{B}_{\text{consumption}}$. GT2 is an even more specific variant of the former, but a similar special case of $\Delta\mathbf{M} \Rightarrow \Delta\mathbb{B}_{\text{consumption}}$ can be imagined:

$$\mathbf{T7.33} \quad \triangle\mathcal{N} \Rightarrow \triangle\mathbb{B}_{\text{consumption}} \Rightarrow \triangle\Delta\mathcal{V}(\mathbb{B}_{\text{PCD}}) .$$

Although this relationship was suggested by, for example, Porter (1990) and DiMaggio (1994), there still remains little research regarding it:

The social sciences have been slow to see this relationship, and slower still to take stock of its significance. They have generally failed to see that consumption is a thoroughly cultural phenomenon. (...) consumption is shaped, driven, and constrained at every point by cultural considerations. The system of design and production that creates consumer goods is an entirely cultural enterprise. The consumer goods on which the consumer lavishes time, attention, and income are charged with cultural meaning. Consumers use this meaning to entirely cultural purposes. They use the meaning of consumer goods to express cultural categories and principles, cultivate ideals, create and sustain life-styles, construct notions of the self, and create (and survive) social change. Consumption is thoroughly cultural in character. (McCracken, 1990, p.xi)

Veblen (1899) and Giddings (1903) were probably the first to point at the importance of culture to consumption. Veblen argued in his *The theory of the leisure class* (1899) that competition often takes the form of a competitive use of goods to affirm social status. Recently, Xu *et al.* (2004), for example, showed that consumption is not only related to *social* status, but also to *ethnic* or cultural identity, while Minkler & Cosgel (2004) pointed at the importance of consumption for religious identity.

Whereas McCracken stated that 'consumption is thoroughly cultural' (see quotation above), Giddings (1903) argued that culture and consumption are nearly synonymous:

'What men desire and expect in life is an epitome of their race history in social intercourse, manners, art, amusements and religion. (...) A phenomenon of the diversification of wants and satisfactions, the standard of living is a fact not of production primarily, but of consumption. Thus we arrive at the broad economic significance of culture. The evolution of culture is the evolution of a consumption economy.' (p. 457)

Giddings' conclusion echoes in Howes' (1966) claim that 'it is now thought that the Industrial Revolution presupposed – and may even have been preceded by – a 'Consumer Revolution'; hence, the birth of the consumer society is no longer presumed to be explicable in terms of technological innovation and changes in the forces of production alone' (p. 9). In other words and contrary to popular belief, the mass-production revolution followed the increase in consumptive demand, not the other way around.

Although the influence of culture on consumption may be of some importance, the difficulties inherent to researching the relationship (the lack of useable data mainly) may not be worth the trouble. To a large extent, consumption is determined by production (marketing included) and wealth. Moreover, even if consumption is partly influenced by culture, the economic effects seem to be of no or only minor importance, since it is generally the types of goods consumed that are culturally influenced and not the level of consumption, while it is this level of consumption that is (most) economically relevant. Hence, in the culture - economy dialectic, consumption only seems to play a rather passive supporting role: 'Le seul élément actif, le facteur révolutionnaire par excellence, c'est l'industrie humaine' (Vandervelde 1904, p. 167).

7 / 5 / 5 / geographies of economic growth

Classical and modern geography provided a number of theories on spatial and environmental effects on the CED. In classical geography (see § 3.6.1), culture and economy, the poles of the CED, are considered to be part of some wider category ("man" or "society") that is opposed to the physical environment. Culture and economy are shaped in reciprocal relationships with the physical environment and with each other:

T7.34 $\Delta\Phi_{\text{phys.environment}} \Leftrightarrow [\Delta\mathbf{M} \Leftrightarrow \Delta\mathbf{B}_{\text{PCD}}]$.

In most of these theories, there is, however, no distinction of the economic and the cultural. Hence, these are not theories of the CED in the strict sense. However, physical determinist theories (which assume that the physical environment (co-)determines the social; see § 3.6.1) of cultural and economic development have been important in many theories of the CED. Although physical determinism slowly went out of fashion in geography in the early 20th century, it remained influential in many other fields. Huntington's *Civilization and climate* (1915), for example, while rejected by most geographers, kept inspiring other

scientists, including Toynbee (1934-61) and Hofstede (1991), who claimed that the cultural differences he found are partly caused by differences in climate. Other recent contributions to physical determinist theory include the many studies by Sachs and his co-authors on the effects of among others mean temperature, distance to the coast, diseases and arable land (Sachs & Warner 1997; Bloom & Sachs 1998; Gallup, Sachs & Mellinger 1999; Sachs 2000; 2001), and Diamond's *Guns, germs, and steel* (1997), which claims that Europe got rich because of the presence or absence of certain types of crops (grains especially), domesticable animals, infectious diseases and resources. (See also Acemoglu, Johnson & Robinson 2002; Easterly & Levine 2003; Olsson 2003; Hibbs & Olsson 2004; Rodrik, Subramanian & Trebbi 2004.)

In the field of human geography the attention shifted in the 1950s and 60s towards abstract space and distance rather than the real physical environment. This resulted in numerous, mostly mathematical theories on the effects of distance, agglomeration and location on the chances for entrepreneurial success and economic growth. Isard (1956) and his modern apprentice Krugman (1992), for example, pointed at the importance of agglomeration effects and the related economies of scale and information density. Even this kind of theory can be considered as part of (or related to, at least) the CED because agglomeration, for example in the form of urbanisation, is a (partly) cultural phenomenon.

7 / 5 / 6 / summary and conclusions

The *minor* theories presented above are theories of culturally influenced *conditions* or *catalysts* for economic growth and are therefore more similar to GT2 than to GT1. Five types of theories were described: (1) the theory of the *embeddedness* of the economy in (a.o.) culture; (2) general theories on the cultural conditions for economic development; theories on the influence of (3) institutions and (4) consumption on economic growth; and (5) theories on the effects of space and the physical environment in or on the CED. Culture was shown to be important in providing a shared conceptual framework, a body of (tacit) knowledge and a set of rules that may facilitate co-operation and development in regions or social groups. Institutions or institutional environments that may promote economic growth include democracy, political stability and a good educational system. Economic freedom, on the other hand, seems to be the effect of wealth rather than its cause.

The influence of consumption is more problematic partly because the lack of appropriate data. Moreover, its relevance in (or to) the CED is not completely clear as consumption may be determined more by wealth and production (including marketing) than by culture. Consumption seems to be a more or less passive element in the CED.

Classical geography studied man - environment interactions. In physical determinism, it was assumed that society, culture and economy are (at least partially) determined by the physical environment, especially by climate. Some similar theories still persist, but not within the field of geography. A more recent type of geographical theory that is, albeit not

closely, related to the CED focuses on the economic effects of agglomerations, which can be regarded to be the products of culture.

The next section continues testing of the many theories of the CED. The focus, however, shifts to a re-evaluation of earlier tests in Brons (2002) by means of the causal graphs proposed in subsection 7.1.1 (§ 7.6.1) and some new tests based on the measurements of regional cultural and economic differences in chapter 6 (§ 7.6.2). Section 7.7 finally focuses on the theories of the CED that have not been tested or are untestable and summarises the main findings of this chapter.

7 / 6 / further testing of the CED

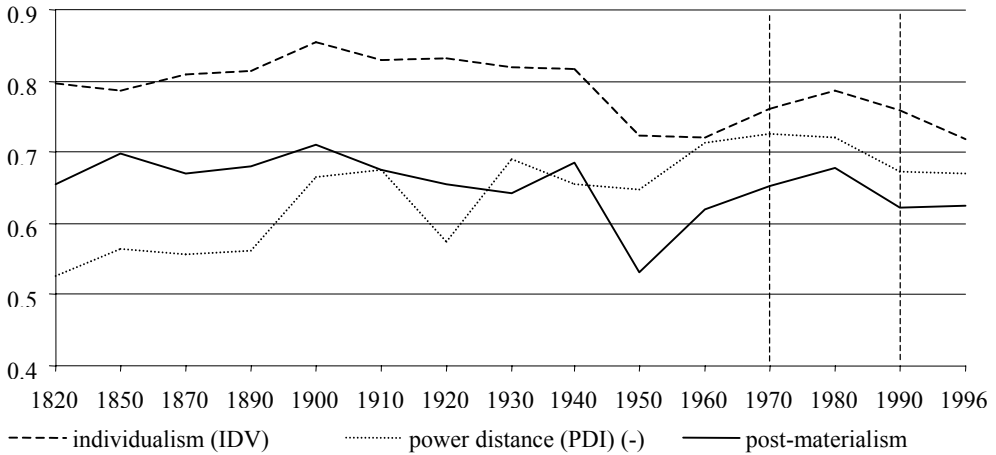
The empirical test results presented in the preceding sections (§ 7.4 mainly) seem to be rather inconclusive. For many of the theories in this chapter there is either contradictory 'evidence', or no 'evidence' at all. Possibly more and better testing can solve this. On the other hand, the problem may be more fundamental. The CED may be more conceptual than empirical, in which case statistical testing is doomed to fail. Nevertheless, this section presents some new test results, partly based on a reinterpretation of the results of an earlier study (Brons 2002), partly based on new measurements of regional culture as derived in chapter 6. Subsection 7.6.1 is a second look at the findings of Brons (2002), mainly by means of *causal graphs* that graphically represent the correlation between a time series variable and a variable measured at a single point in time. Basically, these graphs are similar to figure 7.1 (§ 7.1.1), albeit that figure 7.1 was purely theoretical and the *causal graphs* in subsection 7.6.1 are based on actual data. Subsection 7.6.2 deals with the explanation of regional differences in new firm formation as an aspect of entrepreneurship and with other relationships between regional cultural and economic variables.

7 / 6 / 1 / national culture and causal graphs

In subsection 7.1.1 it was explained that correlations between or with time series data provides the best possible defence for causal theories. The result can never be more than a mere 'defence' however, as causation is fundamentally untestable (see § 7.1.1). In Brons (2002) a number of measurements of national cultural and institutional differences were compared to time series data on national wealth measured as GDP. As the (approximately fifty) cases in this analysis were the countries for which cultural and/or institutional data was available, these hardly represent an arbitrary sample. Hence, it is not very useful to speak of *significant* and *insignificant* correlations, and the results of the analysis should be interpreted carefully.

Figures 7.3 and 7.4 graph the Pearson correlations with Maddison's (1995) GDP time series for a number of variables, that correlated particularly high (see table 7.4): Hofstede's individualism (IDV) and power distance (PDI), Inglehart's post-materialism (p-Mat), economic freedom, civil rights and competitiveness. (Dashed vertical lines in the graphs represent years of measurement for non-time-series (cultural) data.)

figure 7.3: causal graph of wealth (GDP) and cultural dimensions

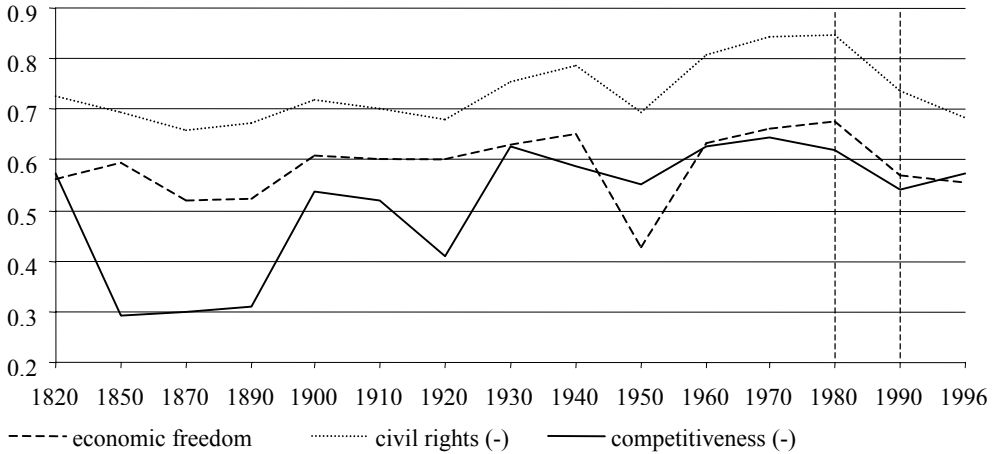


correlations to variables marked * are negative.

sources: Pearson correlation coefficients: Brons 2002; original data: individualism (IDV) and power distance (PDI): Hofstede 1991, measured around 1970; post-materialism: Inglehart, Basañez & Moreno 1998, measured in early 1990s; GDP: Maddison 1995; UN 1999.

Unfortunately the lines in figure 7.3, with a possible exception for power distance (PDI), do not even closely resemble the ideal case of figure 7.1. While power distance and GDP are strongly related, there seems to be no time gap, and hence, the figure does not reveal a probable direction of the possibly causal relationship.

There are two peaks in the line representing correlations with individualism (IDV): one in 1900 and one in 1980, which seems to suggest that there is a 70-year time gap in the causal direction from wealth to individualism, and a 10-year time gap for the relationship in the opposite direction. The results for post-materialism look very similar, but as the measurement was of much later date, the interpretation is different. Both peaks now were earlier than the time of measurement of the dependent variable (p-Mat), and hence, there seems to be a unidirectional causality from wealth to post-materialism (with a very long time gap).

figure 7.4: causal graph of wealth (GDP), institutions and competitiveness

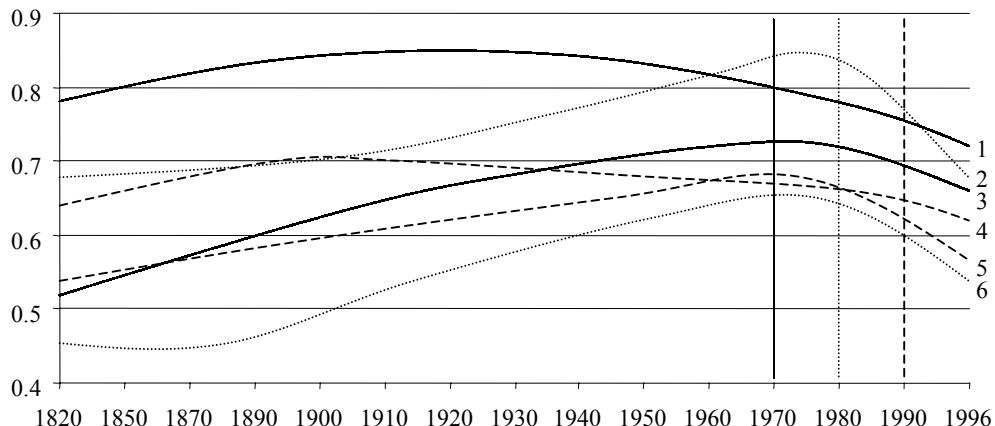
correlations to variables marked * are negative.

sources: Pearson correlation coefficients: Brons 2002; original data: economic freedom: Gwartney, Lawson & Block 1996, measurement for 1990; civil rights index: Taylor & Jodice 1983 (*low score = more civil rights!*); measurement for 1980; competitiveness: Lynn 1991, measured by Spence & Helmreich around 1980; GDP: Maddison 1995; UN 1999.

Like the lines in figure 7.3, those in figure 7.4 do not come close to the ideal case. Nevertheless, all lines seem to suggest that the respective phenomena are influenced (or even caused) by wealth with very small time gaps.

The lines in figures 7.3 and 7.4 show some remarkable similarities. All six lines show clear drops around 1950 and four of the six show a similar drop around 1920. The most probable explanation hereof is war. The First and Second World Wars seriously affected the economy of nearly every country in the world (of the countries in the data set, at least). As different countries were affected differently this would result in lower correlations with data from later (or earlier) periods. Hence, to correctly interpret the causal graphs, it may be necessary to control for the effects of war and look at the trends only. Figure 7.5 presents such an attempt to correct the graphs for the First and Second World War.

figure 7.5: causal graph of wealth, culture and institutions: trends



1 = individualism; 2 = civil rights*; 3 = power distance*; 4 = post-materialism; 5 = economic freedom; 6 = competitiveness*. correlations to variables marked * are negative.

Vertical lines represent years of measurement of dependent variables and are in same style as corresponding correlation lines.

Figure 7.5 is considerably easier to interpret than figures 7.3 and 7.4. Nevertheless, it also has to be interpreted more carefully because the figure does not represent the actual data. There may have been small errors or mistakes in brushing out the effects of war that made the interpretation of the actual data in figures 7.3 and 7.4 that complicated. Based on figures 7.3 to 7.5, a number of conclusions can be drawn.

- (1) Individualism and post-materialism *may* be caused by wealth (GDP), but with considerable time gaps (of 50 to 100 years).
- (2) Power distance *may* be related to wealth (GPD), such that wealthier societies are less tolerant for inequality, but the exact nature and direction of this relationship remains uncertain.
- (3) Economic freedom and civil rights *may* be related to wealth (GDP), such that an increase of the latter results in an increase or improvement of the former. The time gap in this relationship seems to be very short (5 to 20 years).
- (4) Competitiveness *may* be negatively influenced by wealth (GDP) with a very short time gap (approximately 10 years).

As mentioned before, the results should be interpreted with care. The most minimal conclusion, however, would be that none of the relationships mentioned in the four conclusions above is falsified (see also § 7.1.1).

The above confirms (or at least seems to do so) parts of GT1, especially a number of modernisation theories such as Lewis's and Inglehart's (see § 7.2.2). The same data can also be used to test for possible cultural and institutional effects on economic growth as proposed in GT2. Correlations with economic growth (percentage of increase of GDP),

however, are far lower and far more erratic than those with wealth. Hence, causal graphs seem to be of little use in testing GT2.

Table 7.4 presents the two highest (absolute) peaks and the gaps between these peaks and the year of measurement of the non-time-series data. Correlation coefficients and gaps are shown for the first and second (in time) highest peaks. The highest correlations are printed in boldface.

table 7.4: *highest correlations between values, institutions, wealth and growth*

peak:	ρ wealth (GDP)		gaps		ρ growth		gaps	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd
IDV	0.855	0.787	-70	+10	-0.258	-0.382	+5	+23
PDI	-0.686	-0.677	-30	+10	0.161	0.217	+5	+23
LTO	-0.827	-0.734	-60	-90	-0.518	0.667	-25	+15
p-Mat	0.711	0.727	-90	-20	0.403	0.333	-65	-45
EF75	0.580	0.605	-35	-15	0.236	0.217	-20	+10
EF90	0.608	0.676	-90	-10	0.191	0.319	-35	-5
EO	0.450	0.454	-140	-50	0.277	0.164	-55	+3
PRI	-0.721	-0.799	-160	-10	-0.399	0.314	-35	+13
CRI	-0.725	-0.847	-160	-10	-0.405	0.278	-35	+13
SHWE	-0.294	-0.218	-130	+10	0.508	-0.306	-35	+5
SHCS	-0.573	-0.643	-160	-20	-0.290	0.342	-35	+5
RLAM	-0.323	-0.220	-140	0	-0.410	-0.361	-65	-35

sources: Pearson correlation coefficients: Brons 2002; original data: IDV = individualism / PDI = power distance / LTO = long term orientation (Hofstede 1991); p-Mat = post-materialism (Inglehart, Basañez & Moreno 1998); EF75 = economic freedom 1975 / EF90 = economic freedom 1990 (Gwartney, Lawson & Block 1996); EO = economic openness (Dollar 1992); PRI = political rights index / CRI = civil rights index (Taylor & Jodice 1983); SHWE = Spence's & Helmreich's work ethic / SHCS = Spence's & Helmreich's competitiveness / RLAM = Ray's & Lynn's achievement motivation (Lynn 1991); GDP: Maddison 1995; UN 1999.

gaps: distance in years between year of measurement of variables; negative is measurement of economic variable *before* measurement of cultural / institutional variable; positive if measurement of economic variable *after* measurement of cultural / institutional variable.

Interestingly, if it is assumed that all correlations represent causal relationships, all cultural and institutional variables seem to be effects of wealth (GDP), most of them with very long time gaps. However, some variables are much more strongly correlated than others. Achievement motivation (RLAM) and work ethic (SHWC), for example, are negatively correlated to wealth, but these correlations are so low that these hardly support Bell's (1974) thesis that wealth leads to a declining work ethic. On the other hand, Bell's thesis cannot be falsified with absolute certainty on the basis of this data either.

Results for economic growth are very different. In most (but not all) cases, if a causal relationship is assumed, the direction of this causality seems to be from economic growth to culture or institutions, but most of the correlation coefficients are very low. Individualism (IDV) and power distance (PDI) seem to be the exception. Both are weakly correlated to economic growth such that it seems that, contrary to many theories, collectivism (low IDV) and high power distance promote growth. However, the correlation coefficients are far too low to support any theory. Only in the case of long term orientation (LTO) do there seem to be consistently strong correlations. Strangely, table 7.4 suggests that economic growth leads to a decline of LTO (with a time gap of approximately 25 years) and that high LTO results in economic growth (with a 15-year time gap), which would result in a cycle of periods with high LTO and low growth and periods with low LTO and high growth. However, in the theoretical literature (*e.g.* Hofstede 1991) LTO is considered to be an extremely stable dimension reflecting basic cultural differences between Western and Eastern cultures. Other *relatively* high correlation coefficients in table 7.4 suggest that economic growth leads to (causes) an improved work ethic, more civic and political rights and a decline of achievement motivation. The latter finding refutes T7.29 (see § 7.3.2).

Table 7.4 seems to reinforce the four conclusions based on the causal graphs presented above. Regarding most other relationships nothing conclusive was found. One small adjustment and one further conclusion seems to be justified. Firstly, not only are civil rights positively influenced by wealth, but political rights are as well (see conclusion 3 above). And secondly:

- (5) The very low correlations between work ethic and wealth and the positive correlation between economic growth and work ethic seem to falsify (or to make it rather improbable at least) Bell (1974) / T7.19.

7 / 6 / 2 / regional culture and economy

There are several reasons to test the CED on the very small spatial level of Dutch municipalities. First of all, the regional level tends to minimise institutional differences, which makes it easier to focus on the effects on and of culture. Secondly, many theories of the CED have been tested and some even confirmed at the international level, others have been tested on the micro level of the individual. Thus far it remains a mystery, however, whether similar macro effects can be found on scales smaller than countries. Moreover, in empirical research, it is often assumed that cultural differences are differences between countries. This is, of course, obvious nonsense since many countries have strong internal cultural differences. Moreover, as was explained in subsection 7.4.2, some cultural effects, such as the influence of religion, might be overpowered by stronger national cultural differences making the (inter-) national level an inappropriate level to study the CED.

The question whether regional cultural differences are important in explaining regional economic differences (and the other way around) still remains to be tested. This section,

therefore, is not only intended to further test theories of the CED, but also to test on which spatial scales significant relationships between culture and economy can be found.

The most easily tested versions of GTI are theories of the relationship between wealth and cultural values (see § 7.4). Preceding sections showed positive correlations between wealth measured as GDP and individualism and post-materialism, such that an increase in these two cultural variables is caused by an increase in wealth. In subsection 6.2.2 it was shown, that some of the measures of regional culture derived are significantly correlated to different measures of income. Table 7.5 presents a more complete overview of correlations between the five dimensions of regional culture and a number of measures of income.

table 7.5: *correlations between regional culture and income in the Netherlands*

	E.ainc	E.linc	E.ltli	E.hinc
PMA	-0.122	0.548	0.572	-0.364
PRC	0.017	-0.040	-0.033	0.033
IND	0.846	-0.448	-0.412	0.720
EAC	-0.112	0.267	0.313	-0.242
DST	0.088	-0.036	0.008	0.033

N = 487

E.ainc = average standardised income (in 1000s of euros) (1998-2000); E.linc = average percentage of households with low incomes (1999-2000); E.ltli = average percentage of households with long term low incomes (1999-2000); E.hinc = average percentage of households with high incomes (1999-2000).

PMA = post-materialism; PRC = Protestant conservatism; IND = (classical) individualism; EAC = egalitarian anti-conservatism; DST = dissatisfaction (see chapter 6 for measurement procedure).

The very high correlation between individualism (IND) and average income (E.ainc) seems to reinforce the results presented and found above: wealth leads to (classical) individualism. However, there is no significant correlation between post-materialism (PMA) and average income. Rather to the contrary, PMA is correlated to the percentage of households that have a long-term low income. The effect remains even after controlling for the degree of urbanisation (see table 6.14 in § 6.2.2). This seems to contradict the theory and earlier findings on the relationship between wealth or income and post-materialism. There are however (at least) four (possible) explanations for this deviation.

Firstly, it is very well possible that in a very rich and relatively egalitarian country such as the Netherlands the differences in wealth are too small to be relevant for the development of post-materialism. Above a certain threshold, a further increase in wealth may not further influence the level of post-materialism. The second possibility is that the causality runs in the opposite direction: in other words, that more post-materialist communities have more households with relatively low incomes, which could be the result of the fact that post-materialists value non-material (or non-monetary) achievements more highly. Thirdly, there

could be a common cause other than the degree of urbanisation explaining the coincidence of PMA and low-income. Fourthly and finally, PMA could measure something very different from post-materialism, which considering that all indicators pointed at post-materialism, seems not to be the most likely option (see § 6.2.2). However, in comparing further results found in this section and in earlier and other studies on the causes and effects of post-materialism, it is important to keep in mind that PMA possibly is not completely identical to post-materialism.

The availability of data on new firm formation by novice entrepreneurs (see § 6.3.2) makes it relatively easy to test at least part of GT2. Unfortunately, there is no satisfactory data on innovation available on the very small spatial scale used here, which limits the analysis to just one indicator (or measure) of entrepreneurship (see also § 6.3.2): the average number of newly founded enterprises divided by the labour force (E.strt).

In testing the effects of cultural values on entrepreneurship it is important to include possible non-cultural causes (*e.g.* Granato, Inglehart & Leblang 1996). In a series of regression models a few of these non-cultural causes were included: the degree of urbanisation; the size of the existing population of firms; the education of the labour force and the percentage of migrants in the population (see also § 7.4.2).

Cultural variables included were post-materialism (PMA), PMA corrected for degree of urbanisation, education and income (PMA-R), Protestant conservatism (PRC), and dissatisfaction (DST). The other two cultural variables, classical individualism (IND) and egalitarian anti-conservatism (EAC) did not appear to be related to new firm formation.

Both PMA and PMA-R were included, albeit in different regression models. PMA is a combination of both regional differences in culture and the effects of urban culture. Hence, PMA-R was used in models that also included (at later stages in stepwise regression) degree of urbanisation (U.durb) and the percentage of more highly educated in the labour force (L.Lfhe). Otherwise, the uncorrected PMA was used in the analysis.

Models 1, 2, 4, 5, 6, 7 were the results of a stepwise regression analysis. Models 3 and 8 were added later to complete the picture. Similarly, models 9 to 13 were the result of a second stepwise regression analysis.

table 7.6: regression models of new firm formation in the Netherlands (E.strt)

	1		2		3		4	
	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>
PMA-R							0.256	0.000
E.estb	0.359	0.000	0.424	0.000	0.422	0.000	0.463	0.000
U.durb			0.398	0.000	0.344	0.000	0.404	0.000
L.lfhe					0.115	0.013		
R ²		0.129		0.282		0.299		0.347
	5		6		7		8	
	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>
PMA-R	0.297	0.000	0.302	0.000	0.267	0.000	0.184	0.000
PRC	0.141	0.001	0.166	0.000	0.195	0.000	0.169	0.001
DST					0.201	0.000	0.257	0.000
E.estb	0.466	0.000	0.451	0.000	0.427	0.000		
U.durb	0.396	0.000	0.329	0.000	0.223	0.000		
L.lfhe			0.144	0.001	0.223	0.000		
R ²		0.365		0.381		0.410		0.119
	9		10		11		12	
	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>
PMA	0.442	0.000	0.404	0.000	0.442	0.000	0.418	0.000
PRC					0.191	0.000	0.189	0.000
DST			0.207	0.000	0.222	0.000	0.183	0.000
E.estb	0.486	0.000	0.476	0.000	0.484	0.000	0.486	0.000
U.rimg							0.158	0.000
R ²		0.308		0.349		0.384		0.407
	13							
	<i>s.c.</i>	<i>sig.</i>						
PMA	0.321	0.000						
PRC	0.197	0.000						
DST	0.222	0.000						
E.estb	0.454	0.000						
U.rimg	0.166	0.000						
L.lfhe	0.173	0.000						
R ²		0.427						

dependent variable: E.strt = average ($\times 1000$) number of newly founded enterprises divided by the labour force (2001-2002). N = 410.

s.c. = standardised coefficient; *sig.* = significance.

PMA = post-materialism; PMA-R = PMA corrected for degree of urbanisation, education and income; PRC = Protestant conservatism; DST = dissatisfaction (see chapter 6 for measurement procedure).

E.estb = average ($\times 1000$) number of established enterprises divided by the labour force (2001-2002); L.lfhe = average percentage higher educated in labour force (municipalities larger than 10.000 inhabitants) (1997-2002); U.durb = degree of urbanisation (2003) (see table 6.3); U.rimg = share of immigrants not explained by degree of urbanisation (see table 6.3).

In both series of stepwise regression all three dimensions of culture mentioned above were included and proved to be highly significant in explaining regional differences in new entrepreneurship. The cultural dimension of post-materialism (PMA), the degree of urbanisation and the size of the existing population of firms seem to be the most important determinants. These three variables account for an R^2 of 0.347 in model 4 and in the model most similar in the second series, model 9: an R^2 of 0.308.

Interestingly, comparing models 3 and 7 shows that including cultural variables increases the explanatory power (R^2) of the model by 0.111, which is only slightly lower than the R^2 of model 8 (0.119) which used cultural variables alone. In the second series of models (9 to 13) the three cultural variables are the first to be added to the model after the existing firm population size, which further illustrates the importance of culture. Table 7.7 specifies the increase of R^2 after inclusion of the different cultural variables. In case of the second series of models, the impact of culture seems to be far greater, but this is caused by the fact that the measure of post-materialism (PMA) used in this series of models is not corrected for the degree of urbanisation and the level of education.

table 7.7: increase in R^2 by inclusion of cultural variables

	models 1-8	models 9-13
PMA-R	0,065	
PMA		0,179
PRC	0,018	0,035
DST	0,029	0,041
total	0,111	0,255

The relative importance of cultural variables is the same in both series of models. The effect of post-materialism (PMA) is the strongest, followed by dissatisfaction (DST) and Protestant conservatism (PRC). The other dimensions found in chapter 6, classical individualism (IND) and egalitarian anti-conservatism (EAC) did not significantly influence new entrepreneurship.

Some of the cultural effects found may seem to be somewhat surprising. The effects of Protestant conservatism (PRC) and dissatisfaction (DST), as expected, (to some extent) confirm theories and findings by Weber (1905) and Wildeman *et al.* (1999) respectively, but the *positive* influence of post-materialism contradicts Inglehart's (1990) claim that post-materialists are less entrepreneurially active. Again, this could mean that PMA actually measures something else, but there also may be other explanations.

The most obvious explanation for the positive influence of PMA on entrepreneurship is that one of the most important characteristics of post-materialism is self-development or self-expression. Because this is one reason for many entrepreneurs in the Netherlands and other Western countries to start firms (*e.g.* Smith 1967; Birley and Westhead 1994; see also § 7.4.2), there may be a positive relationship between post-materialism and self-employment

in (very) wealthy countries. While 'Postmaterialists emphasize economic achievement less than Materialists do, and they emphasize other kinds of achievement more' (Inglehart 1990, p.176), these 'other kinds of achievements' may still cause higher self-employment rates. Besides culture, the size of the existing population of firms, the degree of urbanisation and education seem to be important determinants of entrepreneurship. Models 12 and 13 also confirm Hoselitz's (1960; 1964) thesis that immigrants (as a socially marginal group) have higher levels of self-employment (see § 7.3.1 and § 7.4.1).

7 / 6 / 3 / summary and conclusions

Test results presented in this section confirm both aspects of GT1 and GT2. Wealth seems to cause individualism and economic freedom, for example, and Protestantism promotes entrepreneurship (or new firm formation at least). What was also clearly shown, is that the CED is not only relevant to the individual or micro level and to the (inter-) national or macro level but also to smaller scale territorial macro levels such as Dutch municipalities. The most important difference between the findings of this section and earlier sections is that the regional cultural dimension of post-materialism measured as PMA (see § 6.2.2) correlates to economic phenomena differently than Inglehart's international measure does. The latter has negative effects on self-employment for example, while PMA has a positive effect. This may, however, be caused by differences in motivations for self-employment. It may be the case that in a rich (and post-materialist) country such as the Netherlands new firms are founded more for reasons such as self-expression than to make as much profit as possible. Hence, post-materialism may promote entrepreneurship, but a different kind of entrepreneurship with a different kind of (post-materialist) entrepreneur.

7 / 7 / conclusions, results, and what remains untested

In this chapter a number of theories and empirical tests were presented. Some theories were confirmed, others rejected. Some theories were not tested at all or even seemed to be untestable. Even if a theoretical relationship *seemed* to be confirmed or refuted by empirical 'evidence', this was not necessarily the case due to the fact that tests rarely deal with the problems of testing for causality as explained in subsection 7.1.1.

This final section briefly reviews the most important old and new empirical findings that reached 'reasonable probability' (§ 7.7.1) and the theories that have not been or cannot be tested (§ 7.7.2). A more extensive review of the theoretical and meta-theoretical implications of the findings in this chapter is included in the next (and final) chapter.

7 / 7 / 1 / a summary of conclusions

Throughout this chapter a number of empirical findings were presented. However, in many cases empirical results were rather inconsistent. Only a relatively small number of conclusions seem, therefore, to be justified. Most of these, moreover, are related to GT2. The main findings are presented here, numbered 1 to 10.

- (1) Partly confirming GT1, increasing wealth results in cultural change. The most important effects found were an increase of (a) individualism; (b) post-materialism; (c) economic freedom; (d) civil and (e) political rights; and a decrease of (f) competitiveness. Contrary to theory, no effect of wealth on work ethic was found. (see §§ 7.2.2; 7.4.1 and 7.6.1)
- (2) There does not seem to be a consistent relationship between Hofstede's dimensions of culture and any aspect of entrepreneurship. Any possible value on any of Hofstede's dimensions may have a positive influence on any aspect of entrepreneurship.
- (3) Similarly, post-materialism in some studies negatively influences self-employment, while it was found to have a positive influence in the empirical part of this study. These different effects of the same cultural dimension on the same economic variable may be related to the fact that post-materialism is *non-atomic*. It is composed of several culturally different phenomena that may have contradictory effects. The lower valuation of profit and material wellbeing may negatively influence self-employment, while self-expression and self-development may promote it. The lack of consistent relationships between Hofstede's dimensions and entrepreneurship may be caused by the same phenomenon: some aspects of, for example, individualism have a positive effect on self-employment and innovation, while other aspects have negative effects (Nakata & Sivakumar 1996; Tiessen 1997; see §§ 7.3.2 and 7.4.2).
- (4) The only cultural dimension (if it is one) that seems to have a consistent and significant positive effect on self-employment is dissatisfaction. (§§ 7.3.2 and 7.6.2)
- (5) On the regional scale a positive effect of Protestantism on self-employment was found, confirming Weber's thesis (§§ 7.3.1 and 7.6.2). On the (inter-) national scale, however, no such confirmation was found (Kilby 1971; Lynn 1991). This may be caused by the fact that national cultural differences overpower religious and other types of difference. In other words, some cultural effects disappear on the (inter-) national scale.
- (6) Therefore, it may be advisable to study the CED (or the effects of cultural values on behaviour in general) on the regional rather than the (inter-) national scale. (§ 7.6)

- (7) Hoselitz's thesis that marginal groups such as ethnic minorities are more entrepreneurially active than their host populations seems to be sufficiently backed by empirical evidence.
- (8) Contrary to popular belief, there is *no* consistent evidence for the theory that entrepreneurship positively influences economic growth.
- (9) No consistent direct effects of culture on economy were found. It is often assumed that individualism promotes economic growth. In this chapter (§ 7.6.1), however, the opposite relationship was found: collectivism seems to positively influence economic growth. The evidence for this relationship, however, was not particularly strong.
- (10) Institutions do (or seem to at least) effect economic growth, but often are effects of economic growth and/or wealth as well. Hence, the direction of causality in this type of relationships is generally unclear.

7 / 7 / 2 / what remains untested

Although many of the theories presented in this chapter have been tested, at least as many remain untested or are only partially tested. The latter is especially the case for the more general theories that assume relationships between very broad categories (for example, the set of values and other non-institutionalised rules \mathcal{N} as a whole, rather than some specific and measurable subset), such as the general forms of HM and GT2. Table 7.8 presents the more general theories for which more detailed or more specific variants were tested:

table 7.8: *general and specific theories*

general theories	related, more specific theories	C	R	U
T7.8(a); T7.10(a); T7.11;	T7.14a; T7.18; <u>T7.19</u> ; T7.21(a); T7.30	X	X	X
T7.14; T7.15; T7.17				
T7.22; T7.23	<u>T7.30</u>	X		
T7.7; T7.24	<u>T7.25</u>	X		
T7.9; T7.26(a)	T7.27; T7.28; T7.29; T7.21b; <u>T7.26b</u>	X	X	X

C = (partly) confirmed; R = (partly) refuted; U = (partly) uncertain. Specific theories printed underlined were empirically refuted.

In addition to the theories that are difficult to test because they are too general, there are a number of theories that have not been tested for other reasons. T7.12 ($\Delta\{\mathbb{P}_{\text{div.lab}}, \Phi\} \Rightarrow^s \Delta\mathcal{N}_{\text{anomie}}$) and T7.20 ($\Delta\mathcal{I}_{\text{capitalism}} \Rightarrow^s \Delta\mathcal{N}_{\text{alienation}}$) (see § 7.2.2), for example, are untested and probably untestable for at least two reasons. Firstly, both anomie and alienation are extremely difficult to make operational, let alone to measure. Secondly, the nature of the relationships suggested is too unclear to make falsification possible. Many of the theories of

the CED suffer from similar problems. Often the nature of relationships tends to be very unclear (often it is assumed that it only holds under certain conditions, without a specification of these 'certain conditions'), and the categories related are extremely broad and ambiguous. Sometimes the causes and effects in the theory can only be classified rather than measured (see § 7.4.1). Sometimes even this is impossible.

The relationships between supposed causes and effects are, moreover, not necessarily causal, but may be conceptual. Bell's (1976) theory that capitalism causes alienation (T7.20) may be an example hereof. The Marxian concept of "alienation" refers among others to the situation wherein labour is a commodity, wherein people are no longer part of some traditional community but live and work in modern cities and industries, wherein people produce goods for the market rather than for their own use. It refers to an economy that is based on the M-C-M-model (use money M to buy commodities C to sell these for more money M), rather than on the C-M-C-model (sell commodities to buy other commodities). (see also § 3.4.1) Hence, alienation *is* capitalism (or at least an aspect thereof), rather than its effect.

In section 7.5 a number of theories were presented, of which only a small part was tested. Embeddedness (§ 7.5.1) can be interpreted in at least two ways. Embeddedness of behaviour is more or less an equivalent of the meta-behaviour - behaviour model. Embeddedness of actors was illustrated with an example from firm relocation research.

Subsection 7.5.2 dealt with theories on the cultural conditions for economic growth. These theories could be interpreted and formalised as theories of weak causation, although this, strictly speaking, would be incorrect because the supposed relationships are not (directly) causal. Only very few of these theories have been tested.

Theories on the influence of institutions and consumption on economic growth and theories on the relationship between geography, culture and economy (§§ 7.5.3-5), like the theories in table 7.8, are far too broad to be tested. A number of more detailed theories were tested, however. Education, democracy and political stability may positively influence development. The influence of consumption and the physical environment, however, remains relatively unclear.

Testability and related problems, such as the question whether CED relationships are of a conceptual rather than causal nature, are further dealt with in the next chapter. Chapter 8 starts with a more extensive review of the theories and tests presented in this chapter and then continues with implications and considerations based on the whole of this study.