An analysis of the travel motivation of tourists from the People's Republic of China

Maren A. Lau

Research Unit Sustainability and Global Change
Center for Marine and Atmospheric Research
University of Hamburg
Bundesstrasse 55
20146 Hamburg
Germany

E-mail: maren.lau@zmaw.de
Tel: + 49 40 42838 4830
Fax: + 49 40 42838 7009

FNU Working Paper 108

An analysis of the travel motivation of tourists from the People's Republic of China

Abstract:

Since the Chinese economic reforms, the government's policy towards travelling and tourism activity has changed. The population of the People's Republic of China gained significant rights and possibilities to travel in their own country and conquer the international tourism market by package tours. However, the literature so far neglected the motivation of Chinese travellers in choosing their holiday destination. We compiled a new database of the preferences of Chinese tourists in domestic tourism and foreign tourists in China. The identification of the specific preferences of Chinese travellers helps to assess in how far tourists' preferences for attractions and regions are similar. Another aspect of investigation is about the impact of tourism promotion in China on destination choice. The results of an analysis of Chinese marketing strategies are translated into recommendations for foreign travel promotion that targets at Chinese tourists.

Keywords: Tourism, China, travel motivation, pull factor, tourism promotion

1. Introduction

Since the Chinese economic reforms, the government's policy towards travelling and tourism activity has changed. The population of the People's Republic of China (China, for short) gained significant rights and possibilities to travel in their own country and conquer the international tourism market by package tours. However, most often the assumptions regarding Chinese tourism are determined by the expected revenue. Yet, this ignores the complexity of the issue. For instance, it is not only the income of a person that impacts on travel behaviour. While focussing on this the motivation of Chinese travellers as a major condition for the extent of the Chinese tourist invasion is neglected. Where do Chinese tourists like to go and why? This paper is based on a newly compiled database of the preferences of Chinese tourists in domestic tourism compared to foreign tourism in China and thus focuses on Chinese travel motivation. Furthermore, does tourism promotion in China have an impact on destination choice? The results of an analysis of Chinese marketing strategies are translated into recommendations for foreign travel promotion that targets at Chinese tourists.

Tourism literature generally looks at behaviour of tourists. Therefore, tourists are subject of investigation in terms of their preferences to visit certain destinations. Most studies are interview-based and consist of a quantitative analysis. These often distinguish push- and pull-factors that determine tourists' decision to travel. It is widely accepted that such factors are active in the decision-making process for a specific destination. However, an agreement on details in definition is missing. It is obvious that what is for some a pull-factor becomes a push-factor with others.[1] This study is not laid out to engage in the broad discussion but largely focuses on pull-factors in tourism.

According to Ryan (2003), work generates leisure behaviour and this further determines travel behaviour. His major hypothesis is that the key lies in work patterns while holidaymaking is a way to compensate for the stress and boredom of everyday life. The first argument follows the assumption that a work with a high routine level, especially if it is machine-dictated, generates a pattern of automated holidaymaking, too. This is a major argument for the boom of package tours. In contrast, interesting work also generates heightened interest in leisure activity; therefore participation becomes more attractive than passiveness in travel behavior. The second argument stems from Ryan's compensation and spin-off theory. Two different motives can exist in parallel. The first assumes that holidays are taken to compensate for the stress and boredom of everyday life which leads the tourist to seek something new while travelling, or – the second assumption - work produces a similar pattern for leisure activity: this may lead to a 'home abroad'-style of holiday that emphasises relaxation in familiar environment. Both of Ryan's arguments are interacting and have an overlapping character.
Plog (after Ryan, 2003) takes a perspective highlighting the motivation of tourists rather than their behaviour. He distinguishes into allocentric and psychocentric travellers, defining their motivation to take risks, the so-called venturesomeness (Plog 2002)[2]. In his understanding the allocentric traveller is the explorer type that seeks new destinations and the psychocentric prefers the familiar and shuns risks. Following Plog Ryan (2003) further defines the motivations of travellers as either 'getting away from a place' (push) or 'desire to see some other area' (pull). We take up both of Ryan's and Plog's ideas and assume that the motivation of novelty may be most complementary to the wish of home-like environment. Both are a form of escape, but for the traveller seeking a home-like environment this is the only condition for choosing a destination, whereas for the novelty-seeking traveller a further dimension is opened, i.e. where to find something new. In this way the clear push-factor of

escape might be supplemented by the predominantly pull-factor of novelty. Here the travel destination is put to the core of decision. As a contribution to the push- and pull-factor discourse that puts focus on different details of motivation (Lau and McKercher 2004)[3] we offer a new perspective taking predominantly the size of the country of origin and the size of the destination country into account. Before this background we analyse in how far the novelty factor impacts on the strength of push- and pull-factors. It shows that a big country of origin generates a more complex decision pattern than a small country of origin.

We cannot interpret a tourist's motivation in such a detail as interview-based analysis can and therefore focus on relatively basic assumptions. Reisinger and Turner (2002a) point out that culture influences - besides aspects as activity level and information flow - a person's relation towards nature. For the discussion on tourist motivation we assume that a tourist has a basic preference for either natural environment or cultural environment when pursuing a holiday.[4] The literature takes up both notions within its push- and pull-factor discussion. These are the only factors that are always included in the sets of variables, albeit not exclusively and in different interpretations (Tisdell and Wen 1991; Xiao 1997; Zhang and Lam 1999; Klenosky 2002; Reisinger and Turner 2002a,b; Pearce and Lee 2005; Lau and McKercher 2004; Enright and Newton 2005). Moreover, prior analyses of the results that are presented in the literature lead to the conclusion that different variables can be attributed to the groups of culture and nature and still provide reasonable evidence for different preference patterns[5].

Figure 1 shows this study's major field of investigation. Generally, we focus on pull-factors[6], emphasising the novelty-seeking aspect in contrast to home-likeness. However, both motivation types are linked to the tourist's individual preference of a holiday to be more related to nature or culture. Despite the difference in motivation all tourists will be interested in the destination attributes, the novelty-seekers to make sure there is something of particular interest to them individually, the home-abroad types of tourists to make sure the tourists' basic needs to feel like home away from home are met. In our analysis, we therefore focus on the nature of the destination, in our case on the province-level administrative units of China. We less strengthen the attribute of activities[7] sought during holiday and only include them as a possible complement to a destination's characteristic; i.e. we do not separately look at winter holiday with skiing opportunities, but only include the possibility of skiing if a certain destination is mainly set out to meet this demand. Generally, we focus on the supply of tourist spots defined as what there is to see. In the following we distinguish into tourist spots - that denote tourist attractions derived from our own database, tourist sights – which are all attractions listed by the sources we used, and tourist sites – i.e. adopted from UNESCO terminology for world heritage sites. Further we look at marketing strategies defined as what is communicated to the potential tourist. Other image-building influences on the tourist are neglected.

A previous regression analysis (Lau and Tol 2006) used the measured behaviour of tourists related to their actual decision for a destination along their personal demand. Again other influencing factors, e.g. availability and price, had to be neglected as no data were available. Therefore, the number of tourists that made a choice for a specific destination within China is the basis of our database. The database contains what is there – not only what is said to be there, as these two dimensions may be quite different – and further emphasises the possible preference groups of culture and nature. The statistical analysis led to a statement on what Chinese people prefer to visit in their own country. By comparing it to the preferences foreigners have when visiting China, it was possible to pinpoint the specific preferences of Chinese travellers and to assess if tourists' preferences for attractions and regions in a country widely harmonise.

This study includes a further dimension and changes the focus from the area of behaviour analysis to motivation. We look at current marketing strategies that lead tourists to make their choice for a specific area; this way marketing strategies may have a certain impact on the tourists' motivation to go someplace. Together with a thorough literature review the information of Chinese preferences is used for a cautious opinion on what Chinese may seek to see when going abroad, especially on overseas trips. In combination with the observed effect of Chinese marketing strategies we further translate our results into strategies Western tourism markets should take into account when targeting Chinese travellers.

The study is laid out as follows: The first part is theoretical. A short literature review focuses on studies on tourism behaviour and preferences, especially in China. The recent development of Chinese tourism and tourism policy is outlined. The concept of pull-factors is discussed and expanded by the factor of country-size. Furthermore, popular marketing strategies in China are analysed and the hypotheses are formulated. The analysis of the second part uses insights of Chinese tourism preferences as developed from the new database. On the basis of this knowledge a detailed source analysis on group frequency and regions follows, that emphasises among other things the ranking system of Chinese tourism attraction promotion. A further regional analysis takes classifications, countywide distribution and province distribution into account. We conclude with a discussion on Chinese tourism aspects as derived from our investigation.

1.1 Literature Review

There is abundant literature on tourism, ranging from general studies with economic, geographical or policy-related focus to descriptive case studies of sociological and psychological perspective. Generally, tourism is perceived as a major industry that generates marketing analyses and often uses statistical methods to understand trends of tourist activity. Like other industries the market is based on supply and demand – here of tourist features and of holidaymakers. During the last decades travelling has globally become a major leisure activity. Some countries are exceptionally popular as destinations and a number of nations are travel champions. Some propose that the Chinese are going to be one of them soon (FAZ 2003; CNTA 2003; HA 2005).

As global expectations calculate with a rising number of well-off urban citizens that are able to afford travelling the potential Chinese tourism market is reason for the industry's gold fever. Unfortunately, there are very few studies that investigate the Chinese tourists' preferences of holidaymaking. One reason is that a survey-based study would seem too big of a challenge in order to produce a result for generalization, given a population of 1.3 billion. The other is that the Western perception of cultural importance is only slowly growing[8]. The Japanese triggered such an insight when they started travelling in the 1980s. Yet, Asia seemed to be uniform to most analysts and researchers. Therefore, many professionals still underestimate the distinction between Asian nations with their different cultures and varying preferences for food, accommodation, sightseeing, transportation etc. What seemed perfectly clear for a distinction of Europe, that there is possibly a difference in travelling patterns and preferences for destinations between e.g. the French and the Polish, only slowly finds its way into the evaluation of the Asian market. Notable exceptions are the studies by Reisinger and Turner (2002a,b).

This study is based on research that has China as a focus – either as a destination country for foreign tourism or as a tourist generating country for outbound tourism. The former group is

represented by works of Tisdell and Wen (1991, Wen and Tisdell 2001) and Wen et al. (2003). Further, Au et al. (2005) focus on the impact regional and global crises have on foreign tourism and particularly look at SARS. Chinese as outbound tourists and their preferences are discussed by studies of Kim et al. (2005) and Zhang and Lam (1999). We further take studies on domestic Chinese tourism as a basis (Schwickert 1989, Zhang 1997). There are several studies that give a good overview on recent historic development of tourism in China: Richter (1983) gives a very early account, Sofield and Li (1998) discuss the interaction of cultural policy with tourism policy, Zhang and Lew (2003) and Xu (1999) emphasise the economic dimension – the latter with three case studies, Bowden (2005) and Ghimire and Li (2001) discuss the relation of tourism development with poverty eradication programs, whereas Zhang et al. (1999) have the most comprehensive account on tourism policy development in China. Most of these studies discuss policy implications and partly include institutional dimensions, such as the change in administrative organisation (Richter 1983) and distribution of responsibilities. Yet, specific promotion techniques have never been part of the discussion. Further, there are a few evaluation studies, by Chu (1994) focussing on sightseeing areas, and by Chen et al. (2004) on the recreational benefit of beaches. A study by Xiao (1997) has the interaction of tourism and leisure as a subject and yields insight into the acceptance of tourism by local residents. Cheung (1999) investigates the meaning of a heritage trail. Both studies compare the preferences of foreign to domestic tourists. Further, some studies on the variety of preferences by Asian tourists, such as Reisinger and Turner (2002a,b) and Enright and Newton (2005) show the distinction of Chinese tourists to other Asian tourists. However, the question of preferences for a particular kind of tourist attractions or a favour for the culture-nature dimension has not yet been subject to analysis.

In the course of investigating the motivation of Chinese tourists, we draw on the general studies of tourism motivation, especially the ones introducing push and pull-factors (Klenosky 2002; Plog 2002; Ryan 2003). Other studies that do not particularly emphasise China or Asia, but discuss the role of travel experience for tourists' preferences are Lau and McKercher (2004) and Pearce and Lee (2005). These are included in the discussion. Additionally, recent newspaper articles (FAZ 2003, HA 2005; Hoffmann 2005) shed light on the massive expectations the industry has and a number of official website presentations (CNTA 2001c; CNTA 2004; CNTO Toronto 2004) further explain the Chinese tourism policy. For the purpose of classifying tourism spots we also depend on extensive personal travel experience in China.

1.2 The database – set-up and sources

We provide a comprehensive database of important tourist spots throughout China.[9] The data break down to the county level. Appendix 1 shows a detailed description of the database's compilation process. The database has already been the basis for a statistical regression analysis by Lau and Tol (2006) in which they used province data, as there are no county data on tourist arrivals for China. Results of their study are used and discussed throughout this paper. For the current study the county level data of tourist spots are used for a qualitative analysis of the spatial distribution and the number of administrative units that feature important tourist spots. Furthermore, a GIS application of the administrative information was used to show their location within the provinces - complete with number and classification of tourist spots - and gives a rough idea of how far these are from the province capital. We assume that most spots are best accessible from the province capital, especially in the western and northern provinces.

In the following we distinguish into tourist spots - that denote tourist attractions derived from our own database, tourist sights – which are all attractions listed by the sources we used, and tourist sites – i.e. adopted from UNESCO terminology for world heritage sites. Generally, tourist spots are classified into natural (N), cultural (C), natural and cultural at the same time (CN), and other (O) including all spots that cannot be exclusively associated with culture or nature. An additional classification (OM) is in combination with O.

For the further assessment of ranking, categorisation and status-giving as marketing instruments of official institutions we used the information provided by the China National Tourism Administration (CNTA) and compared it to the information given by a Chinese non-commercial self-help travel network with expert support (*Yiqilai zizhu lüyou wang*, Yiqilai hereafter). The latter reflects the preferences Chinese tourists have in contrast to what the official tourism administration defines as must-sees. Further, we added a third source, of a mainly commercial character, the Travel-China-Guide[10].

1.3 Development of Chinese tourism

Lately, the Chinese tourism market has become a major focus of economic expectations and, slowly, also of academic research. The Chinese market is particular as the country was practically shut for foreign tourism until the economic and political reforms started by Deng Xiaoping in 1978. Until then also domestic travel had been subject to strict limitation, through a permit system for accommodation and transportation tickets (Sofield and Li 1998). As a means of generating foreign investment and gain foreign currency revenue (Jenkins and Henry 1982) foreign tourism was then actively supported by the Chinese government, e.g. with successively opening tourist cities to foreigners[11] (Richter 1983), and generally in privileging foreigners through advanced booking conditions and provision of high-quality accommodation[12] and special shopping opportunities (Zhang 1997). Despite some organisational problems the trend was steady until the breakdown of the democracy movement in 1989, which lead to a decrease of the tourism growth rate by 17.2% (cf. Hall 1994, Table 4.1). This was a turning point in tourism policy, as now domestic tourism became the focus instead of foreign tourism. The development of domestic tourism was further generated by some aspects supporting tourism demand and facilitating tourism activity, namely the pay rise act of 1993 leaving the salary-earners of the public sector and state-owned enterprises with more disposable money and the 5-day-week that extended leisure time, as well as an increase of holidays to three 'golden' weeks a year in mid 1990s; i.e. Spring festival, May Day and National holiday in October (Xiao 1997; Zhang 1997; Zhang and Lam 1999; Zhang and Lew 2003; CNTO Toronto 2004). Despite some remaining restrictions the 1990s saw an opening of the country and Chinese were allowed to travel to a growing number of destinations that were not necessarily politically favored by the government. The regulation system behind this is that of the Approved Destination Status (ADS) a potential destination country needs in order to welcome Chinese travellers in package tours. In March 2006, 81 countries have received this status (CNTA 2006a). [13]

2. Where do the Chinese go for their holidays? – Pull-factors, Policies and Marketing Strategies, and Hypotheses

The Chinese domestic tourism market is steadily growing. The same is valid for the Chinese outbound tourism market. In order to understand what foreign tourism destinations need to supply for raising the Chinese tourists' interest, we need to consider what the domestic tourism market in China has to offer. Generally, there are only few things you cannot do in

China[14]. In a vast country as China there are also only very few climate zones that are not covered, similarly most vegetation zones[15] are represented. The same goes for geophysical attributes such as mountains, plains and access to the sea and lakes.

Other aspects that may influence decisions on going abroad or not are how certain standards of accommodation and transport facilities are valued in China. Some studies seem to suggest that Chinese travellers prefer to spend less money than average as they prefer to stay with relatives and friends or join discounted package tours (Tisdell and Wen 1991)[16]. Further, preferences in food are especially important to Asian people[17]. If this can be generalised for Asian populations and considering that the range of differing cuisine is broad even within China, the food factor is rather likely to hold Chinese tourists in their own country or at least have them remain in Asia than drawing them to Europe[18].

Latest marketing studies suggest that the Chinese are big shoppers, even more dedicated than the Japanese were, when they started to travel worldwide (FAZ 2003; CNTA 2003; DZT 2005; Hoffmann 2005)[19]. This contradicts a study by Kim et al. (2005) that had shopping opportunities and level of economic development rank on the last of ten positions[20]. Natural and cultural interest preferences of Chinese ranged on positions 2 and 4 respectively. So the fact that a country or region is wealthy and offers extensive shopping opportunities may be at the moment decisive to some Chinese travellers. And a certain dedication to consumption harmonises with the transition China's economy and society currently experiences. For most Chinese tourists, though, it does not seem to be a reason to go abroad or even travel long-distance. As the world economy changes, in terms of shopping it becomes increasingly attractive to stay in Asia. Western companies largely produce in Asia and products are cheaper when travel distance is considered. Furthermore, Asia's own supply of goods is fast catching up with the quality provided in Europe. Even if a certain well-off group of Chinese tourists puts prestigious shopping at the core of their interest, generally, other tourism features of natural and cultural kind are more likely to be decisive for a place to be chosen as a destination by them.

Schwickert (1989) states that the Chinese style of leisure is more related to cultural landscapes and therefore the natural surroundings are less important. In order to assess this assumption we investigate in how far Chinese tourists are interested in different sorts of tourist spots. For this matter it is advantageous that the Chinese tourism industry initially developed along foreign preferences. These conditions only slowly changed throughout the last ten years, when domestic tourism became more important and the internet facilitated the planning of a journey even further[21]. However, the development of domestic tourists' preferences was conditioned rather by foreign choice. For a long time domestic and foreign marketing strategies emphasised similar items. Even if this is changing - for instance the category of 'Red Tourism' has only emerged very recently in domestic Chinese tourism[22] - it does so very slowly. It therefore allows this study to provide a general idea of Chinese tourists' preferences at home that are likely to hold also for Chinese destination decisions for long distance travelling. An analysis of Lau and Tol (2006) that is based on the same database suggests that domestic tourists prefer nature and foreign tourists additionally value culture when travelling in China. Generally, foreign tourists are more interested in tourist spots whereas for domestic tourists the officially appointed 'must-sees' (tourist sights) are of more concern.

2.1 Pull-factors: Chinese outbound tourism

Regardless what they specifically looked at, tourism studies come to the conclusion that a tourist's image of a destination is important and that the pull-factors are therefore very decisive for destination choice as they represent the destination's attractiveness (Zhang and Lam 1999; Ryan 2003). Push-factors are more person-specific and less easily to define. They further get often intermingled with pull-attributes due to unclear definition (compare Zhang and Lam 1999). Also, as holidaymakers become more selective escape motives are undermined and pull-factors become more determining (Ryan 2003). In the following we aim at facilitating research through a focus on major research questions that have the decision on a domestic or foreign holiday as a subject:

- What motivates a domestic tourist to go abroad for the next trip?
- What are major decision-making factors when choosing a country?
- In how far are the tourist's travel preferences – novelty seeking or home-abroad type of holidaymaking - determining the choice of a destination abroad?

Generally, this study is not laid out to fully answer these questions. However, we make assumptions on this matter in order to locate certain decision-making patterns. Classical pull- and push-factors play a major role here. We assume that the domestic Chinese market functions equally to the US domestic market - which is the largest domestic market worldwide - and further assume that people seek what they like to see first at home, as it is more convenient for travellers to stay in their domestic market as long as their needs are met. When going abroad they mainly seek what they do not have at home. But generally tourists have similar preferences for making holiday at home or abroad, we therefore distinguish into novelty-seekers and home-abroad type of tourists. The main question is, if the fact that the USA and China are big countries with an important domestic market and abundant opportunity to fulfil the needs of a holiday in the own country, influences the strength pull- and push factors are able to perform[23]. We therefore take a closer look at potential implications the size of the country of origin has on pull- and push-factors.

Figure 2 presents our assumptions. Generally, it is more difficult for small countries to have a pull-effect on tourists that search for a home-like environment than it is for big countries. This is due to the fact that big countries usually feature a range of different environments and therefore have a better initial position to satisfy the demand for home-likeness.
Small countries that like to attract tourists from other small countries must be in the first place quite alike regarding the features that create home-likeness; otherwise the country will not be selected as a potential destination at all. Therefore the actual push-element of tourists who favour a home-abroad type of holiday, i.e. escape, weighs heavier than any specific features the small country provides. In other words, when the condition of home-likeness is met - perhaps combined with elements such as better weather - the tourist is quite indifferent where he/she travels to[24].
In contrast, for small countries that like to attract home-abroad type of tourists from big countries of origin it is the specific feature at the destination that creates this home-likeness[25]. This is by reason of the big country generally having more and diverse features to offer to a broader group of tourists, who even so all favour home-likeness. These specific features can range from food preferences to be met to landscape or activities sought[26]. Therefore, in this constellation the pull-factor of a specific feature is likely to weigh more than in the other case.

Generally, the pull-factors responsible for novelty-seeking tourists to choose a destination are similar irrespective of the size of the country of origin; push-factors are negligible here. However, for novelty-seeking tourists from small origin countries the pull-factor of another small country must represent a specific feature that the origin country does not supply[27]. All in all a big destination country is more likely to feature something new for the novelty-seeker

from a small country, i.e. the tourist does not need to focus on specific features to guarantee a novelty experience. In contrast, the novelty-seeking tourist from a big country of origin seeks something specific in any case - in a small destination country as well as in a big destination country. Again, this is due to the fact that it is likely for the origin country also to hold a broad range of features. Under this condition it is a specific feature that draws the tourist towards making holiday in another big country, considering that this is presumably more expensive and time intensive than travelling within the home country. A large number of potential pull-factors in the own country generates the need for a specific pull-factor at the destination.

This shows that for China it is generally easier to draw tourists from small countries. Being a big destination country itself, it has only minor opportunity to influence home-abroad type of tourists from other big countries and needs specific pull-factors, e.g. Chinese culture, to generate an incoming flow of novelty-seeking tourists from big countries.
The same goes for big countries targeting Chinese tourists that likewise need specific pull factors for novelty seeking tourists. All small countries that are interested in drawing Chinese tourists, as they come from a big country, need specific features for both groups - tourists that seek novelty or prefer home-likeness. The reason is that even for home abroad type of tourists the push-factor of escape is less important than the specific pull dimension. Therefore, for Western countries to provide a home abroad it is important to note Chinese cultural preferences, e.g. for food, but also aspects of social interaction (compare Reisinger and Turner 2002a, b). Otherwise these countries would need to rely heavily on their novelty aspects and this limits their potential overall numbers of Chinese tourists. Still there is need of a comprehensive interview-based study to acknowledge the share of Chinese tourists that tend to prefer home-likeness to novelty.

2.2 Policies and Marketing Strategies: Chinese domestic market

In order to interest domestic and foreign tourists in a country the formulation of marketing strategies is important. In China marketing is to a large degree dependent on official institutions and their policies. Generally, three periods of tourism policy are distinguished for China (Zhang et al. 1999):

- 1978-1985 where tourism carried still a strong political dimension and already showed economic implications
- 1986-1991 when the economic dimension came to the fore and
- 1992-today where a gradual development within the socialist market economy model is detectable

In order to understand past tourism development and assess future progression it is inevitable to understand the high influence of governmental agencies on tourism in China. As in other developing countries the government is actively involved in developmental as well as operational roles (Zhang et al. 1999; Jenkins and Henry 1982). According to the principles of the China National Tourism Administration (CNTA) from 2000 the government is still seen as having a guidance role in tourism development (CNTA 2004 and 2001c; China Window 2006).

The CNTA's predecessor was founded in 1964 (Schwickert 1989)[28]. In 1978 the China Travel and Tourism Bureau – formerly under the jurisdiction of the Ministry of Foreign Affairs - was elevated to ministerial level (Richter 1983, Zhang et al. 1999). Major organisations under this institution were the China Travel Service (CTS), the Overseas Chinese Travel Service and the China International Travel Service (CITS) (Richter 1983)[29]. Besides, the China Youth Travel Service (CYTS) was established in 1980 (Zhang et al. 1999).

Since 1978 the central tourism administration followed a policy of decentralisation, which resulted in an increase of provincial level initiatives to promote tourism[30] (Richter 1983). Until then tourism was not accepted by the government as an 'appropriate form of economic activity' (Sofield and Li 1998, p.369) but only served the political purpose of promoting the achievements of socialist China (Zhang et al. 1999). Tours organised in these times emphasised this with visits to factories or peasant's and worker's communes (Sofield and Li 1998). Interestingly, today's agricultural and industrial tourism in China is a legacy by these early forms of tourism in the People's Republic. It is a Chinese adoption of the idea of the creation of tourism spaces through the instrumentalization of heritage (see Shaw and Williams 2004).

Generally, before 1979 heritage was not promoted. This changed with the Heritage Conservation Act of 1982, which focussed not only on the 'buildings, sites, and memorabilia associated with the revolutionary movement' but also addressed 'those ancient cultural sites, […] those valuable artworks and handicrafts representative of different eras in Chinese history' (Sofield and Li 1998, p.371). Again it is interesting, that the revolutionary legacy is nowadays booming again in China under the label of 'Red Tourism'. Sofield and Li (1998) point out that there is still an implementation gap between the conservation measures attempted – mainly showing through provinces and local level administrations keenly drawing up lists of heritage sites - and applying the heritage conservation act due to uneven distribution of financial responsibility. This becomes also evident when looking at the problems heritage protection has in preserving the Great Wall from falling into ruin. China's most famous attraction has no specific office that manages its preservation and local governments are mostly interested in its immediate tourism value than in its preservation (Sui 2004)[31].

With the renaming of the responsible agency to CNTA and a major revision of jurisdiction the tourism administration was detached from enterprise responsibilities that remained with the CITS. These developments were pursued at the same time as the Heritage Conservation Act was introduced. Zhang et al. (1999) describe this period of tourism as 'disorder tourism' as the policies of the introduction of foreign investment and decentralisation to tourism resulted in unintended consequences. Besides, quantity was overemphasised sometimes for the sake of quality. A recurring example for this is the oversupply of luxury hotels that exceeded the demand - that was limited through arrivals and transportation availability - by far (Zhang et al. 1999; Tisdell and Wen 1991 after Zhao Jian). To overcome this condition of disorder in the second period from 1986-1991 the government enacted a Tourism Commission and adopted tourism plans, thus it took a new role as coordinator and planner. Further, the government invested in a comprehensive tourism education system and acknowledged the importance of international marketing promotion (Zhang et al. 1999).

In the meantime tourism has become a major economic activity and is seen as one of the major pillars of China's economy for the future (Zhang and Lew 2003) with 11% of the GDP by 2020. The CNTA has formulated major policies in order to increase tourism development. Tourism is an important theme of the 10th Five-Year-Plan that outlines long term development goals of tourism for 2015 and 2020[32]. In 2000 the CNTA also conducted a survey on classification and evaluation of tourist areas. This led to the categorisation into 4A-A tourist spots (CNTA 2001a) we discuss further below. Given that tourism became an issue in the late 1970s with an early emphasis on attractions in the mid-1980s the second focus came rather late.

Interestingly, the question whether today's tourism policy in China is one of promoting centralisation or de-centralisation is disputed. For China 'the regional distribution of tourism exaggerates regional inequality in economic activity and income' (Wen at al. 2003, p.84). On the grounds of this regional inequality slowly decreasing Wen et al. (2003) see a trend of centralisation as tourism brings 'considerable economic benefits to inland China' (p.84). However, our analysis detects no considerable support of weaker economic regions through the promotion of tourist attractions there. This is striking as on would expect regional tourism to be related to the promotion of attractions. Further, as Wen et al. (2003) mainly distinguish into coastal and inland regions, we add a different perspective to the definition of regions through adopting the official view. We will discuss the matter of regional analysis in detail further down.

Through the same mechanism that uses tourism development as a means of regional development, tourism policies in China are often related to other policy fields. A prominent example is that of cultural policy that often becomes intermingled with tourism planning, as Sofield and Li (1998) indicate[33]. Generally, the Chinese policy of heritage protection is much less strict than for example in Japan[34] (Sofield and Li 1998). In comparison a neglect of heritage value is detectable instead of attempting to save the authentic character of sights. Cultural policy is often used in a propagandistic manner, as e.g. minorities' theme parks (so-called folk villages) are used to demonstrate the tolerance of Chinese socialism and thus embodies the governmental policy not only towards minorities but also democracy and religious freedom. For the sake of economic benefit and through political implications heritage quality and educational value are low and 'spectacle and entertainment seem to be rated more highly' (Sofield and Li 1998, p. 386). For this study we may assume that the notion that is imparted by the government also finds an expression in the people's attitude towards, e.g. authenticity.

The means with which the Chinese government promotes tourism are numerous, for instance, in 1992 the CNTA combined natural and cultural heritage sites to scenic routes, e.g. the Silk Road Tour or the Yangtse Tour (Sofield and Li 1998 after Wei 1993). In 1993 festivals and celebrations were used to promote regional tourism (Sofield and Li 1998 after Zhang 1995). Traces of these attempts are still recognisable especially when looking at local tourism providers.

Another obvious means of tourism promotion is the creation of tourist spots through the means of allocating attractions. Cheung (1999) describes the construction of a Heritage Trail in Hong Kong. It was designed to enrich the attractions of Hong Kong by a cultural element. In fact it showed that the trail serves the international tourists' expectations of Hong Kong to represent the exotic East and for domestic tourists to serve as example for the Old China. The perceptions of the two groups of tourists are therefore different. This shows that the creation of spots can at the same time serve the utility of additional income, yet it can seldom predict the tourists' connotations. Another example is the Shenzhen Mini World theme park that was first created to add to international tourism numbers, but later it showed that domestic tourists by far outnumber the initial target group. Creation of sights holds the risk of wrong planning, yet often favourable circumstances prevent major loss.

In the course of using tourism as a development tool in poverty stricken regions, particularly nature reserves have been established. Other kind of less capital-intensive means to support the raise of domestic tourism is the expansion of eco-tourism, exploration tourism, adventure tourism and agricultural tourism (Bowden 2005). Especially the younger generation of

domestic tourists is increasingly interested in activity holidays, such as free climbing or rafting.

There are a small number of major commercial actors existing in tourism marketing lately. In the course of our study we examine some of these providers as sources for tourism information. We distinguish into sources using different languages and therefore targeting different groups of tourists. Furthermore, we make a qualitative analysis on marketing strategies popular in China. For this purpose we formulate a number of hypotheses that are being examined during the study.

2.3 Hypotheses: China's tourism markets

The first group of hypotheses looks at the different tourism markets in China and defines the responsible tourism information sources for these markets:

(1): The Chinese domestic tourism market and the international tourism market in China are both important, albeit different.
(1a): Both markets are served by different tourism information sources. These are distinguished for the foreign and domestic market by the language used, which determines the main target group.
(1b): The sources also differ in content. This is valid for foreign and Chinese official sources, as well as for foreign and Chinese commercial sources.

The second group of hypotheses relates to the promotion of tourism attractions and regions by different Chinese sources and focuses on strategies applied:

(2): The number of overall spots that get promoted by the official Chinese sources (national level) and Chinese local level sources is high.
(2a): The use of marketing techniques to promote certain kinds of attractions - 'creation of sights' - takes place on the local level. The national level does not systematically promote locally supported attractions, i.e. the groups of promoted spots vary per level.
(2b): Local level attractions only get supported by the national level through the use of the ranking system, therefore the support is indirect.

The third group of hypotheses especially recognises the strategy of ranking attractions within the context of promoting regions:

(3): While China's official tourism provider uses the ranking system to promote certain areas and certain kind of sights, the ranking system is rather used for the domestic tourism market.
(3a): Ranking supports the weakest provinces as a development tool.
(3b): A balance is envisaged across the various regions.

Further assumptions that are under investigation are whether the provinces that are preferred by the domestic market are also the ones with the highest GDP. This would mean that the market is clearly laid out when we further assume that most tourists also come from wealthier regions. As there are no departure numbers per province we discuss the probability according to available data. Another assumption is that the provinces that dominate the domestic market are recommended by official Chinese sources irrespective of use of the ranking system.

3. Descriptive Analysis

According to Lau and Tol (2006) there are major differences between the variables that reflect the preferences of foreign and domestic tourists in China. Consequently, if the preferences domestic and foreign tourists have for China vary, they are also likely to differ for other destinations. Therefore it is inevitable to assume that Chinese have particular preferences when going abroad, too. In order to evaluate if these preferences are influenced by information sources this study produces an analysis of each source's share in promoting tourist spots. Furthermore the hypotheses stated above are investigated. Additionally, popular marketing strategies are being discussed and conclusions are drawn for the role the sources' information plays for tourists to decide on the visit of a specific province.

3.1 Sources analysis: Group frequency

A short analysis shows the significance of each of our source groups while building the database. The frequency of the sources' occurrence is decisive. Table 1 shows the distribution. Only 6% of the tourist spots was represented by all groups, another 2% were only included by the Travel-China-Guide-index, another 12% and 20% were represented by four and three groups, respectively. This shows that more than half (60%) of all included tourist spots were represented by only two source groups (two sources altogether of different groups, compare appendix 1). In order to investigate the separate source groups' significance the number of their total occurrence, singularly and in combination, is calculated. Table 2 shows the distribution. For single occurrence the local Chinese source group is most prominent with 1093 occurrences. This indicates the importance of domestic tourism in China, as these sources are mostly in Chinese[35]. The second important group is that of foreign sources (793), which may indicate that the foreign market is mainly served by foreign sources. Following is the group of the official CNTA (680); this may indicate that the official sources, that also target foreigners as their clients, have more importance than the more recent commercial providers.

The analysis of combined groups gives more information on the role these groups play for the marketing of tourist spots. In combination the groups of *local Chinese and foreign sources* lead in number, as expected from their singular numbers. Both markets are important, but are served by different sources. Hypotheses 1 and 1a are therefore supported. The number is only slightly higher than the combination out of *local Chinese sources and official Chinese* source (CNTA). This proves Hypothesis 2, although it is not the highest combination. However, they would be more expected to correlate than the local and foreign sources, in terms that important spots should be mentioned by both levels, national and local. This result shows that the local and the national level assumptions on what is worthwhile seeing are not necessarily matching. Hypothesis 2a is therefore supported. If a creation of sights takes place on the local level, the national level does not necessarily support it. Instead the foreign sources are represented with a higher number in combination with local sources. This may indicate a high quality of foreign sources, as they seem to cover most of what is assumed to be interesting to tourists by all possible sources and levels. Therefore, the foreign sources provide a good mixture out of local and national must-sees. The next lower number of combinations is that of *foreign and official Chinese sources,* this indicates that there is only little overlap between them. And it proves that the foreign sources not merely copy the official data. Hypothesis 1b is supported as the contents of foreign and official Chinese sources differ.

Altogether the data derived through the ranking system were the least important group. This source's presentation only contributed to about 30% of all spots. In combination with other sources its part is at 60%. From the combinations of sources the *ranking system*[36] *and local Chinese sources* showed the highest number (354 from 1325 or 26% of combinations with the

ranking system altogether). It can be concluded that the local source's favourites profit the most if they are also mentioned in the ranking system. Hypothesis 2b is therefore supported. The least context is found between the *ranking system and sources that have foreigners as a main target group*. It therefore is possible to say that the ranking is rather an instrument for the domestic tourism market in China, which supports Hypothesis 3. Although there have been attempts to introduce the ranking system to foreign tourists as well, with presenting some of the lists in English language. However, the fact, that these lists are mainly outdated (from 2001) and also lack some sub-categories (English sources only show 4A, 3A and A), make them rather negligible as a marketing instrument reaching for foreign tourists.

Another interesting result is the low correlation between the *commercial Chinese source and the foreign source* group. This also supports Hypothesis 1b as the contents differ, although Hypothesis 1 has to be rejected as foreigners are the target of both groups. Although they clearly target the same group of tourists, the contents of these sources are quite different. This could mean that deliberately an additional market should be opened by the Chinese commercial sources. By using their knowledge of the region (in contrast to the foreign sources) they strive to become competitive.

3.2 Regional analysis: An introduction

To split China into separate regions is common in the literature[37]. For instance Wen et al. (2003) and Wen and Tisdell (2001) pursue an argumentation of regional development in the context of tourism development and apply a distinction into coastal and non-coastal. This distinction originates in the observation that the coastal regions of China developed earlier than the inland regions due to their advanced position allowed by the Chinese government. This way they had the advantage of early economic support by foreign investment in special economic zones. However, these conditions have changed. Although the coastal regions' advantage is still felt, foreign investment is now likewise supported in non-coastal areas. Another regional distinction is along broader geographic regions and is highly artificial. This shows especially when looking at the Southern region that extends quite up North[38]. Figure 3 has a map that shows the distribution. It is the commonly used regional system though, that can be described as official as it is adapted in the statistical yearbooks for instance. One could argue that it would be better to add a central region[39] to complement the arbitrary South/North distinction. In our case it is necessary to adopt the official version as we attempt to reveal any potential purpose in official policies by using this distinction. We therefore distinguish coastal (11 provinces) and non-coastal (20) provinces as well as the regions North (5), Northeast (3), East (7), South (6), Southwest (5) and Northwest (5). A statistical regression analysis by Lau and Tol (2006) shows a preference of domestic tourists for the Northeast and of foreign[40] tourists for the South.

3.3 Tourism marketing strategies: Ranking, Status-giving, and Categorisation

The CNTA and related departments strive to standardise the management of tourism in China. Additional to macro-management that is represented through a set of regulations and the increasingly important position tourism takes in the Five-year-plans, methods for evaluating 'star-rated hotels and creation of top tourist cities' are at the core (CNTA 2001b; CNTA 2001c; China Window 2006). The following section introduces a number of strategies related to tourist attractions, i.e. ranking, status-giving and categorisation. The former two are presented by at least two of three sources (CNTA, Yiqilai and Travel-China-Guide). These sources represent the official Chinese provider, a self-help network and a commercial

provider, respectively. Additionally to showing the use of these strategies, we shed light on the regions that are being supported by them.

3.3.1 Ranking

A popular strategy by the official Chinese sources is that of listing spots according to their importance as perceived by the tourism industry. This ranking of sights that are worth seeing into the categories 4A (equivalent to most important), 3A, 2A and A (understood as more important than sights not included in this system) has been introduced 2001. The sights are appointed this status throughout the year, i.e. not specifically beginning or end of year[41]. The ranking system was included in our database through group 1. We used the end of 2001 list by CNTA. For this further analysis on the trend of promoting spots through ranking we used the ranking lists of the years 2001 to 2004. This way we are able to say which provinces are treated with advantage, and whether these supported provinces changed over the years. In the course of this analysis we are able to evaluate Hypotheses group 3.

The trend for the ranking system shows mainly a decrease in total numbers per year. Altogether 1405 sights were designated a 4A–A rank until 2004: 594 in 2001, 470 in 2002, 298 in 2003 and only 43 in 2004. The rank of 2A was appointed most often (648) followed by 4A (487) and 3A (174) and A with 96. For all years and all ranks, Zhejiang (98) was the most supported province closely followed by Shandong (95) and Beijing (93). Altogether the Eastern region was represented most continuously followed by the Southwest, North and South. The Northwest was not represented at all in the most often represented ranks and is therefore least important, while the Northeast is fairly represented in the upper ranks and not at all represented in the lowest ranks, which makes it a comparably important region within the ranking system. This corresponds to some extent with the regression results (Lau and Tol 2006) as domestic tourists favor the Northeast there and the ranking tool mostly aims at the domestic market. Table 3 shows the share of provinces per region that were being supported most. The methodology applied here concentrates on the 10 most represented provinces and only through these defines the regions that are supported by the use of marketing instruments such as the ranking system.

Interestingly, among the 10 most supported provinces are 8 that are also already leading in total tourist numbers (domestic and foreign 2002), this is the same for domestic tourism, but for foreign tourism these are only 6 provinces. This allows the assumption that the ranking system was not created to support the weakest provinces in the tourism industry. Hypothesis 3a is preliminarily rejected.
Another interesting observation is that although domestic tourism numbers do not place the Northeast among the most favoured provinces, the regression results by Lau and Tol (2006) show that domestic tourists favour this region (ceteris paribus). The rankings of 2001 confirm their results. Consequently, these rankings are reflected by domestic tourism numbers in 2002. However, one could argue that it is not very likely that the effect of the ranking as a tool shows so soon. This would rather support the assumption that the rankings are oriented along existing numbers. In order to understand the motivation of rankings better, we further investigate in more detail which provinces are supported.

Provinces with a high total number of ranked sights also have a high number of sights across all ranks (4A-A)[42]. There is no indication that generally provinces with a lower number of ranked sights are somehow supported by being appointed more 4A ranks[43]. Provinces that are not appointed high numbers of ranked spots in one of the 4A-A categories are also provinces with low total numbers of sights[44]. Generally, for the first year of appointment (2001) the

ranks 4A and 2A and for 2002 and 2003 2A ranks were mostly represented. In 2004 only 4A ranks were appointed. The 10 provinces with most sights did not get them appointed early in the process[45]. Six provinces[46] (out of ten with the largest numbers of ranked sights) got a significant number of sights appointed in 2003. This leads to the conclusion that there is a system of support behind these rankings, although it is not correlated to the rank height (which would mean that less number of total ranks lead to more 4A appointments), but rather to the total number of ranked sights (which means more lower ranks are appointed in order to increase the total number). This becomes evident as the 2002 and 2003 appointments clearly focussed on the 2A rank. It therefore seems quite likely that appointing the sights as ranked – and therefore important – even though not in the highest category, was supporting provinces' high tourism numbers and less focussed on expectations. The relation of 2001 ranking appointments of the Northeast and high domestic tourism numbers in 2002 is therefore less likely to be causal.

In contrast, more than half of the provinces with the lowest numbers of appointed sights were early preferred (only the trend was clearly decreasing for them). Here a trend of creating spots was not pursued, but the provinces were made part of the system early, perhaps to prevent complaints of omission. This leads to the conclusion that some of the provinces with higher numbers were clearly supported (but this happened later in the process and therefore did not have an impact on tourist numbers at that time), whereas other provinces were rather neglected (but potential objections by them were shunned through early appointments). Therefore, the appointment of ranks to a fairly high number of tourism sights in China by the official tourism administration is used as an instrument in tourism marketing for specific regions, but not as a regional development tool. Hypothesis 3a is rejected. This is also verified by a detailed view on the regions supported most. Table 3 shows that the Eastern region again is most continuously appointed ranks in 2001, 2003 and 2004. In 2001 the Northeastern region was clearly supported. In 2002 the Northern region was clearly preferred as was the Southern region in 2004[47]. The regions Northeast and South represent the areas most preferred by domestic and foreign tourists, respectively (Lau and Tol, 2006). The ranking instrument therefore has first supported the domestic market, whereas the foreign market was aimed at later. This is sensible as the domestic market is clearly in the focus of development right now.

Interestingly, the regions of the provinces featuring the most and the least ranks in total number are surprisingly balanced, i.e. the East, South, Southwest and North are equally represented with 2 provinces and according percentage point in the most and the least ranks[48]. This could lead to the conclusion that there is a system of equalisation behind the attribution of ranks to certain regions. Hypothesis 3b is cautiously accepted.

3.3.2 Status-giving

Since 1986 a major focus of the government's tourism policies was on attractions (Zhang et al. 1999). The regression analysis includes several status-giving categorisations, e.g. the most famous tourist sights in China. We used two sources in order to do justice to both possible preference extremes, i.e. the Chinese tourists' preferences represented by Yiqilai[49] and the Chinese tourism industry's preferences represented by Travel-China-Guide[50]. Interestingly the latter source presents over three times as many sights as must-sees as the self-help network (253:76). This is equal to a share of 8.1 sight per province compared to mere 2.5 sights per province. It can be concluded that this overrepresentation is due to its commercial character. Interestingly, the sources' bias towards N or C sights is different. The commercial provider targeting foreign tourists has 2.5 times as many cultural sights, whereas Yiqilai that

exclusively addresses Chinese tourists has 1.5 more natural sights categorised as most worthwhile to visit. This underpins the conclusion by Lau and Tol (2006) that foreigners are more interested in cultural sights than domestic tourists in China. It also corresponds with the idea that nature is a preferred good by domestic Chinese tourists.

Generally, status-giving categorisations are often used by the Chinese tourism industry, e.g. that of historical and tourist cities. This policy was included in the National Tourism Plan 1986-2000 that initially focussed on 21 top tourist cities (Zhang et al. 1999)[51]. The sources used (CNTA and Yiqilai) provide diverse numbers[52]. Overall Yiqilai provides a number of cities more than double to that of CNTA[53]. It shows that the provinces of Heilongjiang, Jiangsu, Hubei and Liaoning are supported by the official CNTA numbers, as these are comparably higher than the ones by Yiqilai. Whereas the Yiqilai source in comparison supports the provinces of Yunnan, Henan, Sichuan and Hebei. If we consider that the Yiqilai numbers rather represent the tourists' preferences, and the CNTA numbers more reflect the official policies in tourism industry, these results are indeed interesting. Apart from the fact that the areas covered are not matching, they also represent quite different parts of the country. CNTA then strongly supports the Northeast of the country - which confirms the regression results of the domestic tourism preferences for the Northeast (Lau and Tol, 2006). In contrast, the self-help network to a much lower degree prefers the Southwest of the country. In table 3 the same system is applied as for the ranking system analysis, albeit with the leading 8 provinces[54]. It shows that the tourists themselves have indeed a different preference than the promotion of the official source is indicating. However, only the trend described by the official source shows in the regression of domestic tourist numbers by Lau and Tol (2006).

In China there are quite unique cultural features that influence the preferences of Chinese tourists, such as the concept of mountains being important for the cosmos (refer to appendix 1 table 4). Therefore mountains are chief places of pilgrimage irrespective of Buddhist or Daoist affiliations.[55] An analysis of the mountains referred to by different sources (Yiqilai and Travel-China-Guide) shows the following results. Both sources agree to the group of sacred mountains (*wuyue*)[56] and the most important Buddhist and Daoist mountains in China (group of 8, 4 each)[57]. Again the total numbers of mountains deemed important is much larger with Yiqilai, a bit less than double though. The sources also show different categories[58]. Due to a much smaller sample number for mountains[59] table 3 concentrates on the smaller and uneven number of supported mountains apart from the *wuyue*. This shows us which regions are important and become supported by the fact that famous mountains are attributed to them. Both sources show a preference for mountains in the Eastern region[60]. Regarding the classification of mountains as far as they are in our database the N mountains are dominant with 20 out of 26 (7 are not in the database). This would harmonize with the expectations that Chinese tourists seek natural areas; nonetheless mountains are insignificant also to domestic tourists (Lau and Tol, 2006).

3.3.3 Categorisation

A categorisation of attractions that is unique to Chinese sources is that of industrial and agricultural sights. Altogether there are 306 such sights listed (HNTA 2005a)[61]. These split into about two-thirds of agricultural sights and one third industrial sights. Most provinces feature more agricultural sights than industrial sights, with Jiangsu, Anhui and Guangdong showing the largest difference between the two options (16:4, 17:6 and 14:6 respectively). Only five provinces have more industrial sights than agricultural sights (Fujian, Jilin, Shandong, Shanxi and Zhejiang) and two are even (Gansu and Liaoning). This does not

correlate with the percentage the agricultural or industrial industries represent in these provinces. It is interesting that agricultural sights are that prominent, given that only very few provinces show a comparable share of agriculture to their GDP. Another reason for deviations is that this categorisation is highly artificial, which becomes clear when taking a closer look at the definitions behind them (HNTA 2005b).

Agricultural sights range from:
- visiting rural homes and villages with options of experiencing rural life by working on the field
- agricultural entertainment, i.e. pick fruits, fishing, plant vegetables, enjoy picnics, but also learn about the techniques of plantation
- agricultural technologies miracle, i.e. visit high-tech farms, learn about new or rare species
- and countryside holiday

As becomes clear the options range from activity visits and educational experiences to leisure stays. Agricultural tourism is especially promoted as a means of supporting poor regions (Bowden 2005). Industrial sights cover mainly the experience of watching a production process and learn about products and firms. Sectors are as different as the movie industry, automobile and Chinese liquor (*maotai*) production. A famous example is the opportunity to visit the Shanghai Baogang steel plant. There is a third group of sights included in this kind of categorisation: commercial and trade sights, which usually comprise of technical economic zones within urban areas. Generally, the agricultural and industrial sights are situated in the suburbs of big and middle-sized cities, with the urban population as the target.[62]

After discussing the variety of marketing strategies that are used in Chinese tourism promotion, we further investigate if certain regions are promoted by different sources and in how far the distribution of spots is relevant for tourist numbers.

4. Regional analysis: Sources

We take a closer look at occurrence of preferred regions by different sources compared to the result derived through the compilation of our database. We compare the average tourist spots numbers (own database) and tourist sights numbers by the Travel-China-Guide and Yiqilai for classifications of culture (C) and nature (N) for provinces in the various regions. Table 4 reflects the aggregated results.

Regarding the tourist spots the Eastern region is represented most, although with a relatively constant percentage of attractions per provinces; followed by the Southwest and North. The representative distribution among the regions differs more for the various classifications. C spots are quite evenly distributed across all regions except the Northeast. CN spots are strongly represented within the East. N spots mostly exist within the Southwest followed by the East and Northeast. The representation of O and OM spots is clearly dominated by the Northeast.

Altogether it shows that the Northeastern region indeed dominates regarding ‘other’ spots, clearly confined against its under-representation for C and CN spots. The Northeast also scores a fair result for natural spots N. In this context a preference of domestic tourists for the Northeast makes sense. It furthermore corresponds with results by Lau and Tol (2006) that nature is an important feature for domestic tourism, albeit the size of natural areas and not number of spots. As the Northeast still features vast forest areas that are not necessarily listed as specific tourist attractions in our database, the result is coherent.

Some differences are detectable for the commercial provider and the self-help network. The former shows an equal representation for C spots in the North and Northwestern regions. The N spots, in contrast, are represented in the East and less often in the South. Altogether the North is represented most strongly. For the self-help network C spots are located in the East, South and North. N spots are clearly dominated within the Northwest which results in a total dominance of the Northwest even for both (C plus N). The Northeast is clearly underrepresented by the self-help net and the commercial provider. Also the South does not score very high.
Apart from the commercial provider suggesting the North as most representative for the C spots the results are not coherent with the importance through actual existence of spots in the various regions. Moreover, the commercial provider and the self-help net give completely different opinions on the representation of C and N sights. Taken that our database is the most complete as it is derived from a number of sources these results may point at the fact that the providers investigated favour different regions, and deviate from the actual supply. We are left to speculate why this is the case. An explanation may be that foreign and domestic markets are indeed different and preferences deviate from official opinions regarding the classifications of culture and nature.

4.1 Regional analysis: Provinces

Further assumptions that are under investigation are whether the provinces that are preferred by the domestic market are also the ones with the highest GDP. In fact this is the case.[63] Considering that travelling costs money we assume that most tourists also come from these provinces. Therefore the market is clearly laid out across the East followed by the South and North.

Another assumption is that the regions that dominate the domestic market are recommended by Chinese sources[64]. This is only partly true. The ranking system shows an overall preference for the East. The status-giving instrument of tourist cities supports these regions only on average. For tourist sights by commercial providers the North is clearly preferred and the South comes close to it, nonetheless the South is not especially supported (instead is the Northwest). Tourist sights by the self-help net also only shows a high score for the North, which also is still lower than the Northwest.
We conclude that although in some parts of the analysis marketing strategies are identified as supporting regions that show high tourism already, an overview of all marketing features reveals that this is not a consistent system. However, a clear support of underrepresented regions is likewise not detectable.

4.2 Regional analysis: Classifications

The total 1325 spots in our database split into 42% of C spots, followed by 31% of N spots, 14% of CN spots and 10% of O spots; 3% are OM spots. There are 22 provinces that form the top ten of all classifications, which shows that the groups are not homogenous across the classifications, i.e. there are different provinces representing the highest numbers for O spots, for instance, than for N spots. For details refer to appendix 2. Except for Henan (total position ten, two classes) all provinces that are represented in the top ten positions are at least represented in three classes. All of them have at least one top position (position 1-3) in one of the classes, except for Shanghai and Zhejiang (total position 8 and 9) that are only represented in the lowest position group (positions 7-10) four times and three times respectively. This shows that the provinces leading in total tourist spots numbers are represented strongly (at

least three times, except Henan) but do not necessarily need to be represented among the highest positions for one or more of the classes.[65] It also means that no provinces can be clearly defined as representing culture or nature attractions. Classifications are mostly heterogeneously distributed. It also means that promotion is less likely to be defined along different types/classes of attractions.

4.3 Regional analysis: County-based

The county based analysis gives insight on the spatial distribution of tourist spots. The mean spots number per province is 42.7. Per province a mean of 13.4 administrative units on county level and below[66] (administrative unit hereafter) feature tourist spots. For the whole country, only 8.1% of all administrative units feature tourist spots. The highest concentration of tourist spots per administrative unit is found in Jiangsu[67]. From the top ten provinces with the most administrative units featuring spots, six also have the most tourist spots in total[68]. Anhui is the province with the least mean spots number per administrative units that feature spots (1.5), Jiangsu ranks highest with 7 tourist spots per administrative unit on average. Generally, a higher concentration may facilitate the access to tourist spots, but less serves evenly development of tourism within the provinces.[69]

We therefore take a closer look at the distribution by using GIS application. We produced maps with the administrative units featuring tourist spots (with number of spots) - total per province and sorted by classification C, N, CN, O and OM. Additionally a five-fold buffer was created to display the distance of these units with spots from the province capital, reflecting distance of 50, 100, 150, 200 to 250 kilometres from there. Through this we were able to investigate how far the major share of tourist spots is away from the province capital. We assume that the transportation options are generally most convenient from the province capital[70], especially as the domestic tourism is highly depending on train transportation and also foreign tourism is dependent on a dense railway network (Lau and Tol, 2006). Bus connections are the second most important travel option. For domestic tourism the regression results of railway and highway length confirm this. Flight connections are still less important and our results on the insignificance of airport numbers for a province's tourism share (domestic and international) suggest the same.

The distance analysis takes 363 administrative units for the whole country into account. In terms of accessibility the distance analysis reveals that 26.7% of all spots counted within a province are situated within the 0-50 km buffer of the province capital or municipality centre. Interestingly the second highest number is that of 19.8% that are situated outside the buffer zones considered, i.e. more than 250 km away from the province capital. Following our earlier assumption that accessibility depends on distance to capital this leads to the conclusion that a significant number of spots are not easily accessible.

Chu (1994) points out that a sightseeing area also depends on the distance to neighbouring tourist areas. As we look at the sightseeing potential on province level, we take up this idea and apply it to administrative units with spots in the buffer zones but related to other, neighbouring provinces. Figure 4 has a sample map that reveals the concept applied for Yunnan. This way we add to the 363 counted units with spots another 216 that are located in buffers of neighbouring provinces. Table 5 has the results of total numbers of units considered in all buffers. It becomes clear that in buffers from 100 km upwards the number of administrative units with spots in neighbouring provinces is already higher than the ones in the provinces actually considered. While distinguishing into spots within a province or a neighbouring province it shows that 16.8% of all administrative units with spots are within

the province considered and in the 0-50 km buffer zone. Surprisingly, the next highest number is that of 14.7% of units with spots in the 200-250 km buffer in neighbouring provinces. Within the buffers 100-150 km and 150-200 km the units with spots in neighbouring provinces outnumber the units within the provinces buffered. Looking at the four highest positions, these make up for over 50% of all units considered. But also a half of those are located in neighbouring provinces. In contrast, altogether only 37% are located in neighbouring provinces. This shows that a significant number of province capitals is located close to the borders of neighboring provinces – from 100 km onwards, which is also due to shape of provinces - and a significant number of attractions are situated there. For the matter of accessibility this means that it is important for tourism development in China to allow easy access to units with spots across province borders. In relation to railway connections this is a challenge as lines mostly link major cities (like Beijing-Shanghai) or focus on province-wide transportation with less capacity and long running hours. Another factor is difficult ticket availability in remote areas what influences the return to a capital in a neighbouring province, which is especially important for individual tourists on short trips (e.g. day trips).

The analysis on the basis of administrative units with spots gives the opportunity to comment on the distribution of spots in China (for all spots we did that at the beginning of this paragraph). Regarding the categories of zones considered, i.e. along the actual number of spots located in an administrative unit (see map in figure 4) the analysis shows that the majority of units, i.e. 67.5%, has 1-2 spots. The number of units quite expectedly decreases with a rise in number of spots[71]. The same goes for all classifications by N, C, CN, O and OM. Again, Chu (1994) pointed out that neighbouring tourist areas should also be evaluated along their nature, i.e. if they are alike or different. We therefore take a look at the actual distribution of sights per classification; yet, we refrain from detailed analysis per province[72]. Results show that there are by number more units with N spots than with C spots. Interestingly, this is a result differing from total share of N and C spots in the database. We can therefore conclude that N spots may be less prominent than C spots in total, but their distribution across the country is larger. Compared to total numbers the distribution of C spots drops by more than 10%. All other classifications show a slight increase in percentage points. Interestingly, there are no N spots placed in administrative units of the group of 18-21 and 22-37. This could be explained by the fact that N spots are usually more ample than C spots or O spots; in this sense a small administrative unit has less spatial capacity to host as many spots. To find an explanation for O and OM spots to be mostly situated in administrative units with a lower number of spots than 14 is more difficult. Perhaps the rather modern nature of such spots is used to compensate for the low number of spots - historical C or grown N - in general. The distribution of CN spots is similar to that of N spots. This again leads to the conclusion that the distribution of N spots is related to a lower total number of spots per unit. This may also explain that domestic tourists who apparently favour nature are therefore not necessarily going where a high number of spots are. As ‘spots’ were insignificant to domestic tourists in the regression analysis this harmonises with our earlier results.

A closer look at the regional distribution of provinces per strength of C, N CN, O and OM spots *units* in table 6 reveals that the Southwest clearly leads for classifications C, CN and N (and is clearly among the least representative for O and OM spots). Whereas the Northeast only scores high for O spots (and is rather among the least representative regions for CN spots) the South very dominantly leads for OM spots. This makes the South and Southwest the most incongruent regions. The Northwest is clearly among the least representative regions for N and O classifications.

The results for the analysis of administrative units with spots per region and classification only partly corresponds to the results we achieved with the database for the representation of the regions per classification based on provinces with tourists spots (compare table 4). The only results that are clearly confirmed is a high importance of N and O spots that also show in the distribution of spots among Southwestern and Northeastern regions, respectively. The most deviating results show in the Southwestern dominance of C and CN spots regarding their distribution. This means that there are an average number of such spots per province that is distributed comparably wide among administrative units. This also points at a relatively difficult access due to this wide distribution.

As we also like to consider the more classic distinction of regions into coastal and non-coastal, we add a specific observation. The number of administrative units with spots directly located at the coast is not related to the coast length of the provinces. On average 25.6% of the units with spots are located at the coast. With significant regional differences though: Hainan, Fujian, Shandong and Zhejiang have a higher than average percentage, 70%, 40%, 36.4% and 26.7% respectively. The least share of coastal units with spots show in Guangxi (11.8%), Jiangsu (7.7%) and Hebei with mere 5.9%. This is interesting, as the latter has a strong reputation as a province with beach resorts[73], Guangxi is also investing into this theme and Jiangsu has a high percentage of wetlands along its coastline. We can cautiously assume that beach holiday is not a major factor in drawing tourists to the coastal provinces[74], but other features must be more dominating. In this regard the wish to visit a rich and trendy region may be more determining[75].

5. Discussion and conclusion

While considering the literature on Chinese travel motivation, in the following we translate our results into strategies Western tourism markets should take into account when targeting Chinese travellers. In this context we also discuss the success of Chinese tourism promotion in China.

5.1 Chinese tourists and their travel motivation

Generally, the trend towards individual travel, as detected by some studies, points at a higher degree of venturesomeness. Unfortunately there is no information available on the venturesomeness of Chinese people. However, Plog (2002) shows a direct context between venturesomeness and variables that strongly resemble culture and nature aspects. Yet, the variables he suggests as related to venturesomeness are mostly cultural and to a much lower degree natural. As Lau and Tol (2006) show, Chinese domestic tourism is more related to natural aspects (in contrast to foreign tourism that includes both). Therefore there is a good reason to believe that Chinese (domestic) tourists are less venturesome than the average foreign tourist that visits China. Considering that a basic attitude is the same for domestic travel and holiday abroad, this would mean that the Chinese are less than average venturesome and probably will not conquer the West as tourists. After Plog (2002) the income argument is less decisive. We therefore propose a need for more detailed studies on the psychology behind Chinese travel behaviour, when aiming at the prediction of numbers of Chinese travellers to be expected worldwide.

Historically the Chinese are more likely to be dependables rather than venturers (when considering basic development such as witnessed during the Cultural Revolution and attitudes developed in a Socialist societies reality), but there is a good chance that historical legacy turns out to be less important and the younger generation has a different attitude. This speaks

for a perspective taken by Zhang and Lam (1999) who rate the motivation of Chinese outbound tourism along a development scale. They emphasise that the Chinese travellers motivation may be different to that of a more mature tourism market.

A study by Kim et al. (2005) shows that Chinese have a preference for democratic countries that have long history and are culturally different from China. Furthermore they defined Germany and Australia as the places preferred most by Chinese tourists for their beautiful scenery. The wish to experience different cultures is also expressed as a feature of self-development used by Pearce and Lee (2005). They also relate an interest of culture and nature to the travel experience level. When interest in nature is positively correlated to travel experience, the Chinese boom may undergo a time lag, as the Chinese tourism market is still in an early development stage.

The assumption by Ryan (2003, after Wearing and Wearing 1996 and Ryan 2001) that tourists are collectors of experiences and thus providing a meaning to the places through which they pass may be an argument for the Chinese going on the one-week Europe tour to see all the places they heard of with their own eyes. Yet, the assignment of meaning can also lead to unexpected results. Although the once-in-a-lifetime-visit to a holy mountain is a culturally defined necessity in China, Lau and Tol (2006) show that holy and famous mountains are not significant for domestic Chinese tourism. This may indicate that Chinese tourists are also not especially interested in visiting mountains when going abroad. If they do so, they are more likely to be drawn by the aspect of nature; this again would correspond with Chinese interest in natural surrounding.

On the other hand Sofield and Li (1998) showed that nature is perceived differently in China through massive cultural connotations; therefore nature may be less of a preference for Chinese trips abroad. The authors also explain that the strong context of an attraction with cultural interpretations in China leads to a tourism experience of its own worth[76]. This also means that the authenticity as Western tourists in China expect it – and that is often not met – as well as the authenticity Chinese travellers expect are basically different. It is a factor that decides whether the average Chinese traveller is bound to go and see the real Eiffel tower or is satisfied with consuming a dwarfed reproduction at the Shenzhen Mini World and retains this experience in a photograph. However, the authors also admit a difference between the cultural interpretations of own heritage to that of other cultures. As Chinese people lack a shared cultural knowledge of e.g. European culture the tourist gaze may be stronger and let the traveller search for the real experience.

Although expected tourism numbers can be disputed, given the strength of the Chinese nation in number of citizens, for many countries it is tempting to welcome only a small percentage of projected Chinese travellers. In the following we focus on the question in how far promotion in China is impacting on tourism numbers. Parallel we develop basic recommendations about international promotion contents towards Chinese travellers.

5.2 Tourism promotion in China and recommendation to international providers

Apart from promotion strategies that need to focus on specific preferences of Chinese tourists it is important to look at service conditions in the destination country. Reisinger and Turner (2002a) identified the following conditions a tourism provider must meet in order to satisfy Chinese travellers:
- punctuality in the sense of timing and responsiveness of service

- interaction as preference for certain forms of social interaction
- perceptions of understanding as the host's ability to anticipate and understand the individual tourist's need, i.e. – among others – to speak the language
- rules of feeling display as disclosing personal feelings in public
- satisfaction with the provider and the time spend together.

It is questionable if these characteristic aspects only hold for Chinese tourists going abroad (in Reisinger and Turner's (2002a) study it is Australia) or if they also hold for domestic tourism in China. Punctuality is especially problematic when viewed in a domestic Chinese context. Reisinger and Turner (2002a) recommend for host countries that receive Chinese guests to be punctual and competent in Mandarin. The latter recommendation is increasingly realised and partly met by tourism providers in Europe (FAZ 2003; Spiegel Online 2005; Hoffmann 2005).

Our analysis shows that the domestic tourism market in China is clearly laid out in the Southern and Eastern regions when looking at provinces that are visited; furthermore case studies of Xu (1999 on Guilin and Suzhou) indicate that most visitors come from these regions. One aspect that may have contributed to a calculable market is the fact that tourism cities were chosen early and project development was financially aided as part of long-term policies (Zhang et al. 1999). Although tourism has been selected as a key industry for development in economic backward regions (Wen and Tisdell 2001), our analysis indicates that still the same economically strong regions are being supported through official marketing strategies. Thus, domestic tourism promotion follows existing tourism numbers and a use of marketing strategies as a regional development tool is not detectable. In contrast, a balance of supported regions is obviously envisaged.

Altogether the sources are not homogenous in content, i.e. there are many different opinions on which attractions and which regions are important in China. This notion is not simply to explain by different markets. For domestic tourists, official and commercial providers have greater influence on decisions than for foreign tourists. The use of status-giving instruments harmonises with the preferences of domestic and foreign tourists regarding culture-nature preferences. But it is difficult to say, if the instruments meet a demand or the preferences are generated to a specific extent in the first place. This is valid for official and commercial providers. The only deviating source in domestic tourism is the Yiqilai self-help net. This may indicate that preferences that are reflected by official and commercial sources are in fact generated preferences. Yet, only official trends show in tourism numbers and indicate that official sources are still decision-making. However, our analysis for all marketing strategies shows that there is no consistent system behind tourism promotion in China; a generalization for all Chinese sources is not possible.

As classifications are most heterogeneously distributed among provinces, i.e. no province is clearly leading in cultural or natural attractions, for the tourism promotion in China it is less useful to be defined along classes or types of attractions. Yet, this is the common way to do as the Travel-China-Guide-Index and lists by CNTA and Yiqilai that we analysed show. Promotion is also oriented along cities, whereas it becomes clear that especially domestic tourists rather shun provinces where cities are promoted and also foreigners care more about the attractions than tourist cities (Lau and Tol, 2006). This may indicate that foreign countries should rather promote regions and attractions than relying on Chinese tourists' interest in cities. It is probably more advantageous to promote a natural surrounding or setting of a city than the urban lifestyle itself.

Tourism preferences are on the one hand influenced by sources and marketing strategies. On the other hand there are major differences between domestic and foreign tourists' preferences in China (Lau and Tol, 2006). It is therefore likely that preferences also differ for other destinations. This makes it inevitable to identify what Chinese people generally prefer. Results from our database analysis define C classifications as the most prominent. From these the imperial epoch has the highest score. Although most frequent in number cultural attractions are less important and imperial time spots in fact deter Chinese domestic tourists (Lau and Tol, 2006).
This explains why tourism promotion emphasises 'Red Tourism' and with it another time epoch, yet, this also does not raise domestic tourism numbers. Such an emphasis is, in contrast, worth for foreign tourists given that they prefer cultural attractions and most of them in China are from imperial times. According to Kim et al. (2005) foreign countries should especially indicate long historical traditions in order to interest Chinese travellers.

Chinese are interested in their own country, otherwise the domestic tourism would not be booming that strong, but they are less interested in their own culture. This again speaks for a preference of natural features in the own country. Yet, Kim et al. (2005) point out that for Chinese going abroad it is especially the foreign cultures with a comparable length of historic tradition that attract them. In this case it would not be valid to say that we can generalise from domestic travel preferences to international travel motivation. This would also mean that Chinese are more the novelty-seeking type of tourists with a certain aspect of home-likeness, i.e. they show a special interest in cultures that can compete with their own[77].

Actual natural area is preferred by both domestic and foreign tourists and less the number of nature spots (Lau and Tol, 2006). Therefore planning of natural tourism in China should consider emphasizing the preservation of nature rather than its utilization through a raised number of nature tourism spots. Likewise countries that like to attract Chinese visitors can build on a supply of natural tourism experience.

In our analysis the numbers of N spots is not related to an overall high number of spots per administrative unit. As domestic tourists prefer natural areas, they are less likely to go to places that have exceptionally high numbers of attractions per administrative unit. Therefore promotion of high attraction numbers may rather shun domestic tourists. Yet, if this fact is actually perceived like this needs to be verified through a major interview-based study.

An additional analysis of spots classification that has more detail than the broad culture-nature dimension is necessary to explain regional preferences. The Northeast is clearly preferred by domestic tourists. The number of tourists is high, as is that of N and O spots. A simple regional analysis leads to the conclusion that N is the major preference that is supplemented by O spots. In combination with the fact that imperial time spots deter domestic tourists this also points at an importance of O preference. The itineraries of Chinese travellers to Germany show that many attractions included would fit our O category (FAZ 2003; Hoffmann 2005). In combination with an extensive study on preferred attraction classifications this may guide countries to even more tailored offers.

After Lau and Tol (2006) the distance nominator for China and Taiwan deters less than for citizens from Hong Kong and Singapore. Generally, Chinese dislike travelling far, so it is less likely for them to come to Europe. Western countries need a strong pull-factor.

Our analysis includes the dimension of access to attractions. A significant number of attractions is not easily accessible, i.e. more than 250 km away from the province capital or

municipality centre[78]. The position of capitals in neighbouring provinces are likewise important and show that the accessibility of attractions is to high degree dependent on easy access across province borders in order to facilitate tourism. In terms of railway linkage and ticket availability these are huge challenges China faces. Generally, providing access to sightseeing spots is important. Yet the transportation system is not only dependent on availability but also on travellers' preferences and prices. Lau and Tol (2006) indicate that a raise in airport numbers does not necessarily lead to higher visitor numbers.

According to Lau and Tol (2006) coasts are irrelevant to Chinese international travel preferences, whereas they favour their own coastal provinces. Likewise the regional analysis of coastal administrative units with spots directly on the coast reveals that in China 'coast' does not reflect a beach holiday but rather the wish to visit a rich and trendy region. Therefore, also foreign countries should refrain from emphasising beach promotion and rather create an image according to nature and modern features when targeting Chinese tourists.

Overall it becomes clear that the motivation of Chinese to travel - and especially to travel abroad – is unique. Yet, it is not only culturally defined. In order to be able to answer the question if and to what extent the Chinese tourism invasion will take place there is still a strong need for more interview-based studies that focus on Chinese travel motivation. Also, such studies need to cover a larger group of tourists from a wide range of regions[79]. Despite a number of attempts so far our picture of Chinese travel motivation is still fragmented.

Endnotes:

[1] This becomes most apparent in a study by Zhang and Lam (1999) who attempt to relate push- and pull-factors to social demographic aspects and travel frequency. In their study push-factors range from novelty to 'visiting cultural and historical attractions'. In our understanding the first ranges as a predominantly pull-factor related to the push-dimension of escape, the second is related to the destination and is thus clearly a pull-factor by nature.
[2] Following Plog (2002) it is not the income level that drives people to travel, but their level of venturesomeness. The travel behaviour of the Brazilian top-earners is exemplary for people with a low level of venturesomeness, as they only rarely leave their country and prefer the calculable habit of domestic beach holidays. There is no information available on the venturesomeness of Chinese people. Reisinger and Turner (2002a) only make statements on the higher adventurous spirit of Koreans in contrast to Japanese travellers. Within our scope we discuss this aspect for Chinese in our conclusive remarks.
[3] Other studies focussed on travel experience (Pearce and Lee 2005; in parts also Zhang and Lam 1999), demographic factors and travel frequency (Zhang and Lam 1999), and leisure behaviour (Xiao 1997).
[4] Xu (1999) follows a similar idea when identifying either a natural or a cultural destination character in his case studies on Guilin (natural) and Suzhou (cultural).
[5] Although it also shows that nature is defined more broad and as a pull-factor feeds into more attributes than e.g. culture. Klenosky's (2002) study points at cultural experience exclusively related to novelty, whereas natural resources also feed into outdoor recreation and enjoyment of nature, which makes motivation factors more diverse. Yet, it is not a reason to assume that cultural experience is generally only related to novelty. Of course repeat visitors can be motivated to visit a country out of the same reason, especially when the country's culture is as unique as China's. Pearce and Lee (2005) show that nature and self-development are significant factors for the motivation of tourists with higher travel experience (novelty has no relation to travel experience). In contrast, Lau and McKercher (2004) indicate that natural and cultural amenities are more important to the first-time visitor than, for instance, food, entertainment and friendly people that are aspects repeat visitors perceive as more important. All studies have in common that the aspects of culture, nature and novelty are discussed as important features and partly prove to be decisive. This supports the distinction into the groups of nature and culture.
[6] Klenosky (2002) does this using the laddering methodology. Basically, the discussion on push- and pull-factors shows that they are mostly inseparable. The push-factor for a tourist may be as basic as the relaxation/adventure-option. However, it is not as simple as push-factors determine whether to go and pull-factors where to go. We argue that preferences of tourists for culture and nature are inherent in the tourist's personality and that this fact impacts on push-motivation as well as the choice of which pull-factors are chosen to determine the destination. Yet, we look at China as a destination and therefore emphasise the pull-dimension of tourist attractions.
[7] Ryan (2003) does this by distinguishing into nature of destination and accommodation and activities undertaken during the holiday. Yet, Pearce and Lee (2005, after Moscardo et al. 1995) emphasise the link between motivation, activities and destination choice.
[8] Sometimes insight exists, but is loosely argued. For instance Tisdell and Wen (1991) extensively elaborate on the difference in service provision in China. Yet, they neglect the difference in culture in this context, i.e. the Chinese take more interest in service that is likely to seem unnecessary to Western tourists, e.g. the constant provision of hot water, whereas service that is clearly expected by a foreigner, e.g. provision of cold drinks on a flight is perceived as luxury to the Chinese provider. Also basic cultural perception is often neglected, e.g. a different understanding of the notion of shame.
[9] The data can be found at www.uni-hamburg.de/Wiss/FB/15/Sustainability
[10] In appendix 1 (table 1) this source ranges under half-commercial, half-official, as the Xi'an International Studies University is involved.
[11] During Mao's time only a dozen tourist cities were open to foreigners, 1979 this number had increased to 60 and 1982 it were over 100 (Richter 1983).
[12] Interestingly, Tisdell and Wen (1991) cite a study by Zhao Jian, who claims that 70% of all foreign visitors interviewed wanted middle or lower class hotels instead of high-class hotels that were primarily provided.
[13] For information on the order of approved countries and official guidelines refer to Kim et al. (2005). Verhelst (2003) discusses ADS in relation to the Shengen area.
[14] One activity already draws Chinese tourists to Germany: fast car driving on a German Autobahn.
[15] Sofield and Li (1998) state that China's biodiversity ranks eighth in the world and first in the Northern hemisphere.
[16] Mind their study refers to overseas Chinese spending less money in China than foreign guests due to the reasons mentioned. There is a chance that Chinese from the People's Republic travelling abroad have different preferences in this regard.
[17] This becomes evident through the fact that Western hotels when they started targeting at Japanese tourists changed to offering Japanese/Asian breakfast additionally to the Continental and American sets. Compare also Reisinger and Turner (2002a) and Hoffmann (2005). In Germany the food in Chinese restaurants is often not high enough to satisfy guests from China (FAZ 2003).

[18] Another aspect is the function of social interaction a meal has for Chinese people. Reisinger and Turner (2002b) define a clear link from this kind of social interaction to the Chinese tourists' satisfaction.
[19] Another misleading assumption often mentioned is that Chinese people are most keen on gambling. Mostly in this context it is argued that gambling is prohibited in China (Hoffmann 2005). However, it is often underestimated that Macao is close by and gambling is less of a reason to travel to Europe or America, despite Monte Carlo and Las Vegas. Moreover, Kim et al (2005) eliminated the gambling variable from their list of attributes.
[20] Whereas they support the statement that Japanese and Korean tourists are mostly interested in shopping and easy travel plan arrangements. Therefore it is likely that the shopping aspect is a good example for evaluating 'the Asian people' instead of taking the diverse cultures into account.
[21] This way the lack of commercial tourism operators is balanced. Zhang et al. (1999) describe an imbalance of distribution channels of tourism in early periods. Although this had changed, the expansion of foreign tourism operators to the domestic market was still welcome (People's Daily 2003a+b).
[22] This does not mean that there were no revolutionary - 'Red Tourism' - spots visited in the 1990s, but they were rather along the way to major sights that had been developed to serve foreign tourists' expectations.
[23] Again Brazil serves as an example where the domestic market is much more important than outbound tourism. In this sense it seems indeed decisive if people tend to be novelty-seekers or home-abroad holidaymakers.
[24] An example for this kind of tourists are the majority of Germans or British travelling to Mallorca with package tours and expecting to be provided their own food, their language spoken, an opportunity to meet other people of their nationality - all aspects meeting homelikeliness - in combination with better weather (which of course does not serve the novelty character).
[25] An example is the American tourist from a rural mountainous area that seeks a relaxation holiday in a similarly natural environment. There are numerous areas in the US that meet this demand. A small European country that should meet this tourist's need for homelikeliness would firstly need to feature mountains. Therefore Denmark is not a top candidate, neither are the Netherlands.
[26] To draw our imaginary American tourist to Austria, for instance, still something else has to catch his/her attention. In this case it may be the fact that Arnold Schwarzenegger comes from Austria or the fact that the Alps are world-famous.
[27] It is more likely for a novelty-seeking tourist from Finland to go to Greece than to go to Sweden.
[28] The agency was renamed in the course of restructuring in 1982 (Zhang et al. 1999).
[29] The CITS itself was founded in 1954 (Schwickert 1989).
[30] This policy was later put into a different perspective though the implementation of unique means of control over the tourism industry. In 1980 the government introduced Foreign Exchange Certificates (FEC) as a currency for foreigners that was mandatory for any purchase in the so-called friendship stores and this way excluded the Chinese population from purchase there. In reverse foreigner's contact to the common Chinese salesmen was restricted as they could not give change to high-value FEC bank notes; this basically omitted even the purchase of fruits on a street market. However, FEC were highly valued by the Chinese population and exchange from FEC to RMB (Renminbi) was a profitable black-market activity for both groups. The Chinese government renounced the FEC system in the mid-1990s.
[31] There are also other opinions – like that of Ho Kwon Ping – who claims that the government in China is well aware of the problems mass tourism is producing. He stresses that the government has no mindset problem but has to act against time (World Economic Forum 2003).
[32] The Tourism Development Program for the 10th Five-Year-Plan was formulated in 2000 and is based on two forums held in Nanjing and Harbin (CNTA 2001b).
[33] Cultural policies related to tourism development stress the importance of minorities' heritage and festivities and other local traditions. When culture – or the preservation of heritage - serves as an argument to interfere in minorities' affairs the context becomes even clearer, e.g. the Chinese protection attempts of the Potala Palace that are officially justified as compensation for former neglect (of course the circumstances of neglect are no issue) are perceived by the Tibetans as another example for the death of their culture and a 'showpiece of tourism for Chinese package tours' (Sofield and Li 1998, p. 375, citing Lodi Gyari – principal adviser to the Dalai Lama and president of the International Campaign for Tibet - after Hong Kong Sunday Morning Post, 7.8.1994).
[34] The authors' argument goes that Japanese heritage protection especially values traditional construction methods. Yet, the Chinese strive to follow traditional methods in preserving the Forbidden City (Bork 2006).
[35] Some do exist with an additional English website, although these always lack the detail and sometimes are not even in use yet.
[36] The ranking system is explained in detail further down.
[37] Apart from the distinctions introduced here there is another way in defining along major economic zones, e.g. the Yangtse River Delta or the Pearl River Delta Economic Zones. However, data compilation is difficult and inconsistencies are possible (Invest Hong Kong 2004).

[38] This is interesting for the foreign preference of the South. In contrast, the Northeast is clearly defined.
[39] Bowden (2005) apparently uses an interior region for comparison that rather is a non-Northeast, non-Eastern and non-Southern region.
[40] This is including overseas Chinese.
[41] A comparison with the Yiqilai-version of this ranking system supports this. The Yiqilai list of early 2002 already contains deviations from the CNTA list from 2001.
[42] Notable exceptions are Yunnan (80) and Sichuan (67) - both Southwestern region-, that have a very high number of ranked sights altogether, but these are not rooted in number of sights of the 4A rank (18 and 14 respectively), but rather 3A (44 each).
[43] An exception is Fujian (Eastern region) that has a low total number of ranked sights (28) but most of them are 4A sights (22). Similar is valid for Guangxi (southern region, 27) with 16 4A and 10 3A sights.
[44] These are (number of sights in brackets): Guizhou (10), Ningxia (10), Hainan (7), Xizang (Tibet) (6), and Qinghai (3) (two each Southwest and Northwest and one Southern region province).
[45] Except Beijing and Shandong. Sichuan was clearly preferred in 2002.
[46] These are Hebei, Hubei, Liaoning, Zhejiang, Henan and Jiangsu.
[47] Altogether the Northwestern region was least supported followed by the Southwest.
[48] The only deviation is the Northeast represented by one province in the most ranks and the Northwest represented with two provinces in the least ranks.
[49] We deliberately used the smaller list of 'China's key wonders' (*zhongguo mingsheng qiguan*), which presented categories that were roughly comparable to the other source's presentation instead of the non-sorted 'Our country's important tourism scenic spots' (*guojia zhongdian lüyou fengjingqu*).
[50] The list used is the index of China's major attractions, which is sorted into 13 categories plus 9 sub-categories.
[51] In 2006 the number of important tourist cities was 39 (CNTA 2006b). However, we relate to the earlier numbers.
[52] The names of top tourist cities and second rank tourist cities (CNTA) are exclusive. The numbers are overall lower than the ones derived from Yiqilai. They distinguish between excellent tourist cities and most famous historical tourist cities as non-exclusive categories.
[53] The regression result of domestic tourists shunning cities was achieved without including Yiqilai as a source.
[54] These were best to identify.
[55] Despite this, mountains are insignificant within the regression analysis by Lau and Tol (2006).
[56] These are five mountains for all four directions and the middle: Taishan (East), Hengshan (South), Huashan (West), Hengshan (North) and Songshan (Middle).
[57] This means they agree more or less, one deviation by the Travel-China-Guide seems to be a mistake. We ignored it.
[58] For instance, the Travel-China-Guide introduces the category of 'other famous mountains'. Yiqilai goes along with that (in two ranks even), but also has internationally famous mountains.
[59] That is in contrast to the tourist city analysis.
[60] Altogether the Travel-China-Guide supports less mountains and these concentrate on Guizhou and Jiangxi – both inland provinces, one Southwestern, one Eastern. Gansu – another inland province to the Northwest – and Zhejiang are supported by both sources. Zhejiang is a coastal Eastern province and Yiqilai supports another two eastern coastal provinces (Fujian and Jiangsu) and one more Southern coastal province with Guangdong. The Southwest is represented by the inland municipality Chongqing.
[61] Again the sources show huge differences in numbers given; we took the most comprehensive list.
[62] The definitions of these categories do not match our own classifications. Lau and Tol (2006) did not include them in their regression analysis.
[63] As we lack numbers of departure per province we are unable to give evidence, yet we discuss the probability according to available data.
[64] Here the CNTA and Travel-China-Guide are investigated.
[65] Shanghai and Zhejiang are therefore not over represented among classes but still through a consistent (low homogenous) representation make the top ten by numbers. Another observation is that a province is represented twice very high and once low, which also qualifies of being part of the top ten provinces for total numbers, these are Guangdong and Heilongjiang. Both provinces lead with O and OM spots, and are lower represented in C and N, respectively. Surprisingly, is the representation of Shaanxi at the second position in C spots and otherwise not among the top ten for any of the other classes. Similarly is the positioning of Shanxi at positions 5 and 4 in C and OM, equally not qualifying the province for a position among the top ten for total numbers.
[66] I.e. including towns and their districts, prefecture districts and counties, as well as autonomous counties and regions, and the more rare industrial and agricultural districts, forest and mining districts, islands and archipelagos and special districts and the administrative *danweis* of major districts, that may have military purpose.

[67] This is followed by Tianjin, Beijing, Xizang and Guangdong. The high concentration for Tianjin is especially notable as the municipality features a medium number of spots in total but has only five administrative units that feature spots.
[68] Out of this group only Guizhou, Sichuan and Hebei rank comparably higher in number of administrative units than in total tourist spots numbers.
[69] However, the numbers on administrative units per province were not used in the regression analysis, as the system how total numbers of administrative units in the provinces are achieved is unclear. They do not seem to be dependent on the size of province, nor the number of population. Therefore our numbers can only give information on the spatial concentration of spots per province but not on the context with tourism numbers.
[70] Chu (1994) includes this factor as distance to population centres. Zhang (1997) defines domestic tourism as predominantly urban demand.
[71] Except for the group of 18-21 spots per unit that outnumbers the group of 14-17 by a small percentage.
[72] This is left to a follow-up analysis using the existing database.
[73] This is with Beidaihe as a famous cadre resort.
[74] Of course there are examples of beach holiday resorts especially in the provinces with a high number of administrative units of spots located directly on the coast, such as Shandong. But also here the use of beaches is diverse and spans from high cadre beaches, beaches used by sanatoriums to marine military bases and typical city beaches (Schwickert 1989). Although seashore tourism is a topic by the official Oceanic Administration Network (COI 2004) still a beach holiday in China has not the same position than in other (South)-Asian countries. Xu (1999) specifically mentions beach-holiday in his case study on Beidaihe; yet, he here focuses on the difference between *danwei*-financed and individual tourism.
[75] This is partly indicated by Xu (1999), too.
[76] For instance the Yellow Crane Terrace is immortalised by a poem of Li Bai 1300 years ago. The consumption of a reproduction still produces an authentic tourism experience through the shared cultural knowledge of the poem (Sofield and Li 1998).
[77] It is also a very Han-centric approach - often detected in Chinese attitude towards minorities - to link the interest in and the respect to a foreign culture to the length of history.
[78] Considering Xu's (1999) case study on Suzhou these spots are less likely to be a destination for day-trips. The average day-visitor travels only 150-200 km. This is often due to a limited transportation system.
[79] This is in contrast to the study by Kim et al. (2005) who limited their sample to travellers leaving from Shanghai airports.

Acknowledgements:

The DINAS-COAST project (EVK2-2000-22024) provided welcome financial support throughout the data compilation in 2004. I thank André Krebber and Nele Leinert for their assistance with the data compilation and GIS application. I benefited from cooperation with Richard Tol. All errors and opinions are mine.

References:

Au, Alan K.M., Bala Ramasamy and Matthew C.H. Yeung (2005). "The Effects of SARS on the Hong Kong Tourism Industry: An Empirical Evaluation", Asia Pacific Journal of Tourism Research, 10 (1): 85-94.

Bork, Hendrik (2006). „Gebotener Glanz der verbotenen Stadt", SZ (Süddeutsche Zeitung), March 13.

Bowden, Jiaolan (2005). "Pro-Poor Tourism and the Chinese Experience", Asia Pacific Journal of Tourism Research, 10 (4): 379-396.

Chen Weiqi, Hong Huasheng, Liu Yan, Zhang Luoping, Hou Xiaofeng and Mark Raymond (2004). "Recreation demand and economic value: An application of travel cost method for Xiamen Island", China Economic Review, 15 (4) : 398-406.

Cheung, Sidney C.H. (1999). "The Meaning of a Heritage Trail in Hong Kong", Annals of Tourism Research, 26 (3): 570-588.

China National Tourism Administration (CNTA): www.cnta.gov.cn.

CNTA (2001a). Classification and Evaluation of Tourist Areas (Spots). www.cnta.gov.cn/lyen/2policy/classification.htm (last viewed: 9 July 2005).

CNTA (2001b). Mapping out tourism development program for the 10th Five-year plan. www.cnta.gov.cn/lyen/2policy/mapping%20out.htm (last viewed: 9 July 2005).

CNTA (2001c). Principles and Policies. www.cnta.gov.cn/lyen/2policy/principles.htm (last viewed: 9. July 2005).

CNTA (2003). Chinese tourists bring vitality to German market. www.cnta.gov.cn/lyen/gl/1_view.asp?id=2949 (last viewed: 9 February 2006).

CNTA (2004). www.cnta.com/lyen/2cnta/about.htm (last viewed: 4 October 2004).

CNTA (2006a). www.cnta.gov.cn/chujing/chujing.htm (last viewed: 9 March 2006).

CNTA (2006b). www.cnta.com.cn/ss/wz_view.asp?id=16679 (last viewed 9 March 2006).

China National Tourist Office (CNTO) Toronto (2004). www.tourismchina-ca.com/statistics00.htm (last viewed 24 June 2004).

China Oceanic Information Network (COI) (2004). Seashore Tourism. www.coi.gov.cn/eindustry/bhly.htm (last viewed: 25 March 2006).

China Window (2006). www.china-window.com/china_travel/china_tourism/policies-and-regulations.shtml (last viewed: 16 March 2006)

Chu Yifang (1994). Evaluation of Sightseeing Areas in China, Annals of Tourism Research, 21 (4): 837-839.

Cummings, Joe, Robert Storey, Robert Strauss, Michael Buckley and Alan Samagalski (1991). China. Lonely Planet – A Travel Survival Kit. 3rd edition. Hawthorn and Berkeley.

DZT (Deutsche Zentrale für Tourismus e.V.) (2005). Incoming-Tourismus Deutschland - Edition 2005. www.deutschland-tourismus.de (last viewed: December 2005).

Enright, Michael J. and James Newton (2005). "Determinants of Tourism Destination Competitiveness in Asia Pacific: Comprehensiveness and Universality", Journal of Travel Research, 43 (May): 339-350.

FAZ (Frankfurter Allgemeine Zeitung) (2003). „Die Chinesen werden die neuen Reiseweltmeister", No. 297, December 22. P.15.

Ghimire, Krishna B. and Li Zhou (2001). "The Economic Role of National Tourism in China". In The Native Tourist – Mass Tourism within Developing Countries, edited by Krishna B. Ghimire. UNRISD (United Nations Research Institute for Social Development). London: Earth Scan. Pp. 86-108.

HA (Hamburger Abendblatt) (2005). „Chinesen buchen 850 000 Übernachtungen". December 7. www.abendblatt.de/daten/2005/12/07/510960.html?prx=1 (last viewed 7 December 2005).

Hall, Colin Michael (1994). Tourism and Politics – Policy, Power and Place. Chichester: John Wiley and Sons.

Henan Tourism Administration (HNTA) (2005a). The country's industrial, agricultural and trade tourism demonstration spots (Quanguo gongnongye lüyou shifan dian) www.hnta.cn./hnf/cyly/sfd.jsp or www.hnta.cn/hnf/cyly/cyly.htm (last viewed: 9 March 2006).

Henan Tourism Administration (HNTA) (2005b). www.hnta.cn./hnf/cyly/cyly_gk.htm (last viewed: 13 June 2005).

Hoffmann, Catherine (2005). „Die Chinesen kommen", FAZ (Frankfurter Allgemeine Zeitung), No. 45, November 13. P.49.

Invest Hong Kong (2004). www.investhk.gov.hk/keysectors9.aspx?id=534&code=GPRDBKFATCSTOU (last viewed 27 May 2004).

Jenkins, C.L. and B.M. Henry (1982). "Government involvement in tourism in developing countries", Annals of Tourism Research, 9: 499-521 and in The Economics of Tourism, Vol. II edited by Clem Tisdell (2000).

Kim, Samuel Seongseop, Guo Yingzhi and Jerome Agrusa (2005). "Preference and Positioning Analyses of Overseas Destination by Mainland Chinese Outbound Pleasure Tourists", Journal of Travel Research, 44 (November): 212-220.

Klenosky, David B. (2002). "The 'Pull' of Tourism Destinations: A Means-End Investigation", Journal of Travel Research, 40 (May): 385-395.

Lau, Anita L.S. and Bob McKercher (2004). "Exploration versus Acquisition: A Comparison of First-time and Repeat Visitors", Journal of Travel Research, 42 (February): 279-285.

Lau, Maren A. and Richard S.J. Tol (2006). "The Chinese are Coming – An Analysis of the Preferences of Chinese Holiday Makers at Home and Abroad", FNU Working paper 107. Research Unit Sustainability and Global Change, Center of Marine and Atmospheric Research, University of Hamburg. http://www.uni-hamburg.de/Wiss/FB/15/Sustainability/Working_Papers.htm

Let's go Publications (2000). Let's go: China. Basingstoke and Oxford: Macmillan.

Pearce, Philip L. and Uk-Il Lee (2005). "Developing the Travel Career Approach to Tourist Motivation", Journal of Travel research, 43 (February): 226-237.

People's Daily (2003a). "Domestic Tourism Market Opened to Foreign Investment", July 23. http://english.people.com.cn/200307/23/eng20030723_120819.shtml (last viewed: 4 October 2004)

People's Daily (2003b). "TUI, China Travel Service Set UpJoint Venture", September 9 http://english.people.com.cn/200309/09/eng20030909_124002.shtml (last viewed: 12 January 2006).

Plog, Stanley C. (2002). "The Power of Psychographics and the concept of Venturesomeness", Journal of Travel Research, 40 (February): 244-251.

Reisinger, Yvette and Lindsay W. Turner (2002a). "Cultural Differences between Asian Tourist Markets and Australian Hosts, Part 1", Journal of Travel Research, 40 (February): 295-315.

Reisinger, Yvette and Lindsay W. Turner (2002b). "Cultural Differences between Asian Tourist Markets and Australian Hosts, Part 2", Journal of Travel Research, 40 (May): 374-384.

Richards, Greg (2000). "Tourism and Culture". In Tourism and the Environment – Regional, Economic, Cultural and Policy Issues, second revised edition, edited by Helen Briassoulis and Jan van der Straaten. Dordrecht: Kluwer Academic Publishers. Pp. 165-178.

Richter, Linda K. (1983). "Political Implications of Chinese Tourism Policy", Annals of Tourism Research, 10: 395-413.

Ryan, Chris (2003). "Recreational Tourism – Demand and Impacts". Clevedon, Buffalo, Toronto and Sydney: Channel View Publications.

Shaw, Gareth and Allan M. Williams (2004). Tourism and Tourism Spaces. London: Sage Publications. Pp. 242-268.

Schwickert, Petra (1989). Freizeitgestaltung und Binnentourismus in der VR China – Unter Berücksichtigung des autochthonen Erholungsstils im urbanen Raum. Universität Trier.

Sofield, Trevor H.B. and Fung Mei Sarah Li (1998). "Tourism development and cultural policies in China", Annals of Tourism Research, 25 (2): 362-392.

Spiegel Online (2005). „Was Chinesen am liebsten aus Deutschland mitbringen“, August 19. www.spiegel.de/reise/metropolen/0,1518,370538,00.html (last viewed: 24 August 2005).

Sui, Cindy (2004). “Development poses serious threat to Great Wall of China”, The Star, September 16. http://thestar.com.my/lifestyle/story.asp?file=/2004/9/16/features/8896889&sec=features (last viewed: 4 October 2004).

Tisdell, C., and J. Wen (1991). “Foreign tourism as an element in PR China’s economic development strategy”, Tourism management, 12 (1): 55-67.

Travel-China-Guide: www.travelchinaguide.com (last viewed: 2 February 2006).

UNESCO (United Nations Educational Scientific and Cultural Organization) (2006): http://whc.unesco.org/en/list/?search=&search_by_country=&type=Mixed&media=&region=2&order=country (last viewed: 27 March 2006)

Verhelst, Véronique (2003). Study of the Outbound Tourism Industry of the People’s Republic of China – The Probability of a Bilateral ADS Agreement between the PRC and the Shengen Area. M.A. thesis. Department of Oriental and Eastern European Studies, Katholieke Universiteit Leuven.

Wen, Julie J. and Clement A. Tisdell (2001). Tourism and China’s Development – Policies, Regional Economic Growth and Ecotourism. Singapore, New Jersey, London, Hong Kong: World Scientific Publishing.

Wen J., Tisdell C.A. and K.C. Roy (2003). “Regional Inequalities in Tourism Development: Experiences of China and India”. In Tourism and economic development: case studies from the Indian Ocean Region, edited by R.N. Gosh, M.A.B. Siddique, and R. Gabbay. Hamshire and Burlington: Ashgate Publishing Ltd. Pp.84-93.

World Economic Forum (2003). China’s Tourism Potential. www.weforum.org/site/homepublic.nst/Content/China+Business+Summit+2004%5CChina’s+tourism+potential (last viewed: 4 October 2004).

Xiao Honggen (1997). “Tourism and Leisure in China: A Tale of Two Cities”, Annals of Tourism Research, 24 (2): 357-370.

Xu Gang (1999). Tourism and Local Economic Development in China – Case Studies of Guilin, Suzhou ands Beidaihe. English-language Series of the Institute of Asian Affairs, Hamburg, No. 4. Richmond: Curzon.

Yiqilai zizhu lüyou wang: www.17lai.com (last viewed: 2 February 2006).

Zhang Guangrui, and Alan A. Lew (2003). “Introduction: China’s Tourism Boom”. In Tourism in China, edited by Alan A. Lew, Lawrence Yu, John Ap and Zhang Guangrui. N.Y.: Haworth Hospitality Press. Pp. 3-11.

Zhang Qiu Hanqin and Terry Lam (1999). “An analysis of Mainland Chinese visitor’s motivations to visit Hong Kong”, Tourism Management, 20: 587-594.

Zhang Qiu Hanqin, King Chong and John Ap (1999). “An analysis of tourism policy development in modern China”, Tourism Management, 20 (4): 471-485.

Zhang Wen (1997). “China’s domestic tourism: impetus, development and trends”, Tourism Management, 18 (8): 565-571.

source combination by groups	total number per combination	total number per frequency
1-5	80	80
1-4	8	162
2-5	113	
1 3-5	9	
1-3 5	9	
1 2 4 5	23	
1-3	4	267
2-4	26	
3-5	49	
1 3 4	3	
1 3 5	3	
1 4 5	22	
1 2 4	33	
1 2 5	2	
2 4 5	77	
2 3 5	48	
1 2	19	789
2 3	12	
3 4	53	
4 5	251	
1 3	1	
1 4	176	
1 5	9	
2 4	170	
2 5	56	
3 5	42	
index	27	27

Table 1: Source frequency: occurrence of sources in various group combinations

Groups	Frequency
4	1093
5	793
2	680
4+5	624
2+4	530
3	460
2+5	408
1	401
1+4	354
3+5	353
3+4	341
2+3	300
1+2	178
1+5	157
1+3	117

Table 2: Source combination frequency: occurrence of groups (single and in combination) sorted by frequency

		N	NE	E	S	SW	NW
	number of provinces in region	**5**	**3**	**7**	**6**	**5**	**5**
ranks CNTA	*2001*	20	***100***	43	17	40	0
	2002	***60***	33	14	33	20	40
	2003	20	33	***43***	33	40	20
	2004	40	33	43	***50***	20	0
	total most occurrences	40	33	***43***	33	40	0
	total least occurrences	40	0	***43***	33	40	40
tourist numbers	*domestic tourists*	40	0	***57***	50	20	0
	Foreign tourists	20	0	***71***	50	20	0
	total	20	33	***57***	50	20	0
tourist cities CNTA	*total*	0	***66***	14	17	0	0
tourist cities Yiqilai	*total*	20	0	0	17	***40***	0
mountains travel-china-guide	*total*	0	0	***29***	0	20	20
mountains Yiqilai	*total*	0	0	***43***	17	20	20
all percent points refer to top provinces' occurrence related to a region							
total describes the total occurrence in all categories in percent							

Table 3: Marketing strategies: Share of most supported provinces per region

		N	NE	E	S	SW	NW
	number of provinces in region	**5**	**3**	**7**	**6**	**5**	**5**
tourist spots	*C*	***21,5***	10,2	17,2	16,7	19,2	15,2
	CN	20,5	8,1	***27***	15,6	20	9,1
	N	12,4	19	21,4	17,4	***24***	5,8
	O	15,2	***34,1***	17,4	18,9	9,8	4,5
	OM	14,5	***27,7***	20,5	15,7	12	9,6
	total number	17,6	15,7	***19,9***	17	19,6	10,2
tourist sights travel-china-guide	*C*	***26,5***	3	16,9	15,1	12,7	25,9
	N	17,9	2,4	***30,1***	20,3	16,3	13
	total	***24***	2,8	21	16,4	13,5	22,3
tourist sights Yiqilai	*C*	22,9	5,7	***26,8***	24,9	11,5	7,6
	N	18,4	2,4	11,5	11,5	23	***32,2***
	total	19,6	4,2	16,8	18,9	18,2	***22,4***

data refer to percentage of attractions per province in a region
total number is the sum of the foregoing
total describes the total occurrence in all categories
C = cultural; CN = cultural-natural; N = natural; O = other; OM = other-mixed (compare appendix 1)

Table 4: Regional analysis: Share of regions per classification and sources

Zones	number of units within province	number of units in neighbouring province
0-50 km	97	3
50-100 km	57	13
100-150 km	50	56
150-200 km	50	59
200-250 km	37	85
outside buffer	72	-

Table 5: Total number of administrative units per buffer

		N	NE	E	S	SW	NW
	number of provinces in region	**5**	**3**	**7**	**6**	**5**	**5**
tourist spots	*C*	18,7	12,5	14,1	17,3	***19,7***	17,6
	CN	20,3	5,3	21,3	10,6	***29,8***	12,8
	N	10,5	14,2	20,9	14,5	***30,4***	9,5
	O	20,7	***29,6***	15,6	14,8	11,9	7,4
	OM	7	7,6	8,1	***68***	4,7	4,7
data are percentage of adm. units with attractions per province/region total number is the sum of the foregoing C = cultural; CN = cultural-natural; N = natural; O = other; OM = other-mixed (compare appendix 1)							

Table 6: Regional analysis: Share of regions per classification and spots per administrative unit

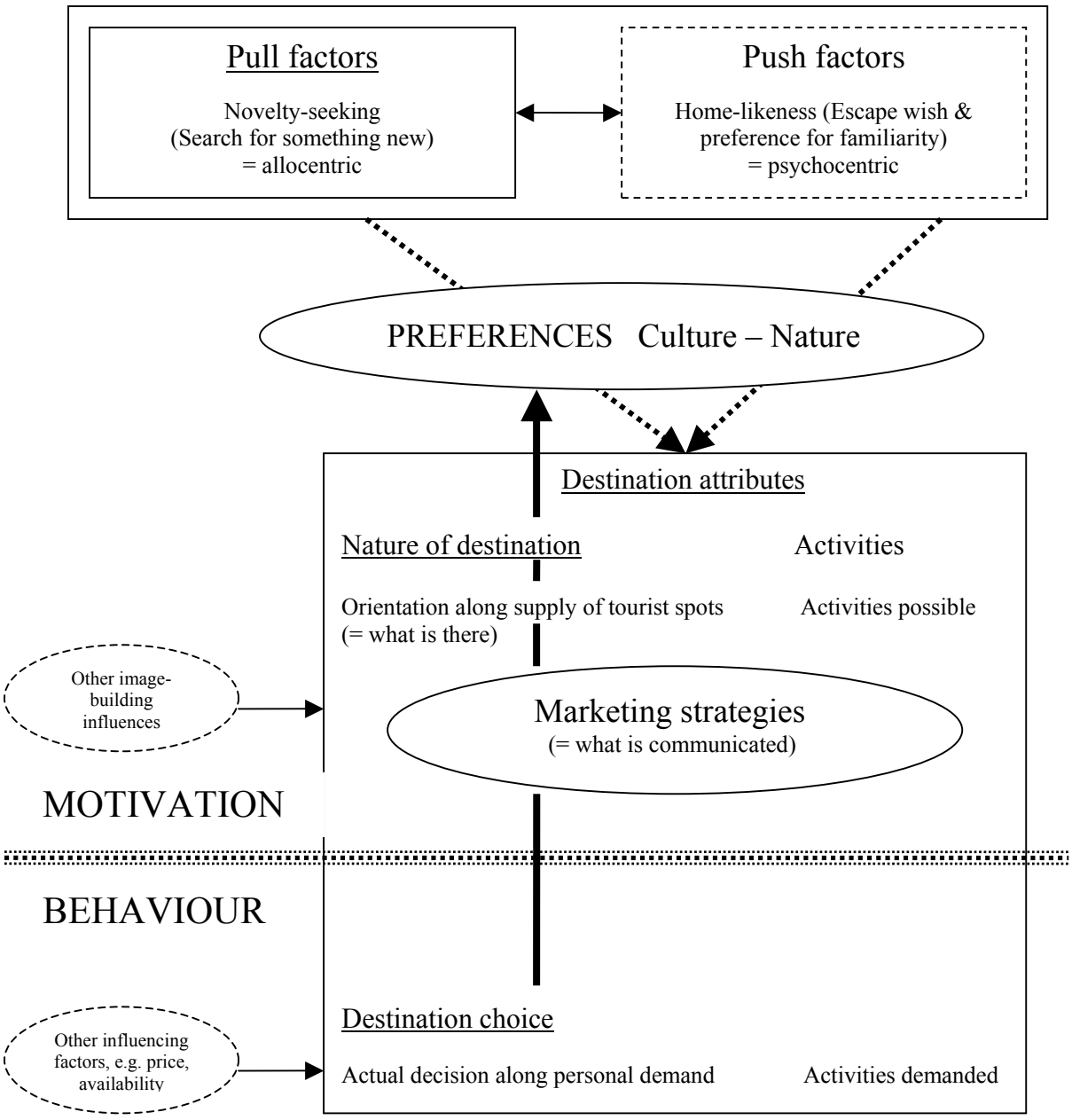

Figure 1: Study's outline

origin country size	Small	
Destination country size / motivations	like home	something new
Big	PUSH (big country features home-like environment)	PULL
Small	PUSH (escape) / PULL (specific feature)	PULL (specific feature)

origin country size	Big	
Destination country size / motivations	like home	something new
Big	PUSH (big country features home-like environment)	PULL (specific feature)
Small	PUSH (escape) / PULL (specific feature)	PULL (specific feature)

Figure 2: Changes in pull-factors' significance through the size of country of origin

Figure 3: Map of official regions

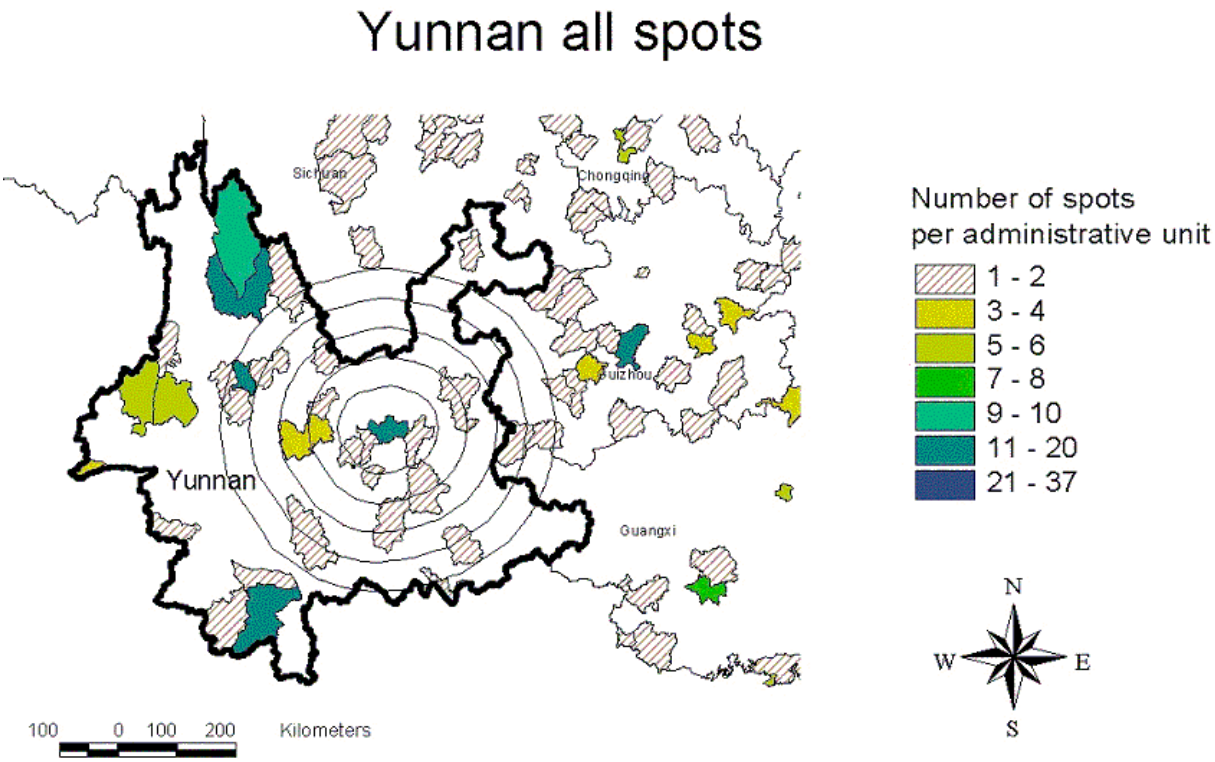

Figure 4: Sample map of sightseeing spot's distribution per administrative unit with distance buffers

Appendix 1: The database methodology

A1. The database

We aimed at providing a comprehensive database of important tourist spots throughout China. The data break down to the county level. The data have been used for statistical regression analysis on province level[1]. The county level data of tourist spots are the basis for descriptive analysis of the spatial distribution and the number of administrative units that feature important tourist spots. The data are also useful for GIS application.

A1.1 Data sources

For compilation of tourist spots we collected tourist spots from 6 sources on a national basis (Chinese and foreign origin as well as in Chinese and English language) and an additional 46 local Chinese sources (all in Chinese language). We used the information provided by the China National Tourism administration (CNTA) and compared it to the information given by a Chinese non-commercial self-help travel network with expert support (*Yiqilai zizhu lüyou wang*, Yiqilai hereafter). The latter reflects the preferences Chinese tourists have in contrast to what the official tourism administration defines as must-sees. Further, we added a third source, of a mainly commercial character, the Travel-China-Guide[2]. All sources are freely accessible websites, except the two foreign sources for which we used the paperback print versions. Appendix table 1 shows the different source groups and their numbers. Appendix table 2 specifies the local sources used.

All sources were combined into five groups representing variations of language (Chinese or English), the status of the source (official and/or commercial), the scale of the application (national or local), and the target groups (domestic and/or foreign tourists). In case that the information on tourist spots was presented in a ranking order (such as the 4A-A ranking system of official Chinese tourism marketing), the absolute occurrence within the ranking system decided. Two groups were categorized like this and therefore only one source represents each of these groups. All other groups were formed from more than one source. Only the group of local sources was presented by at least one source and for nearly half of the provinces (15) a second source was consulted.

A1.2 Data details: Years

We use sources from different years. The information from the internet was gathered throughout 2004 - mid 2005. However, most English-language information on the Chinese websites is older. In the case of 4A-A ranking by the CNTA this becomes most clear. The English-language lists on the web resemble the Chinese-language lists from 2001. For province-based statistical regression analysis, i.e. for the database of spot numbers, end of 2001 data are used, as this is the information people had for their decision on a holiday destination in 2002. For the trend assessment of these ranked 4A-A spots all accessible data from 2001-2004 in Chinese language are taken. The foreign travel guides used are from 1991 and 2000. They therefore not only cover two different publications with possible bias for certain regions, but also a time scale comparable to other information used. The 1991 publication is not necessarily limiting the spots in the database[3] as spots newly opened to the public may have been taken up by the 2000 publication.

A2. Data abstraction methodology

The compiled data were numerous and their number had to be limited to a workable size. Furthermore the data needed classification into groups of tourist attractions which had to serve the research questions. In the following this process of sorting and classifying data is explained.

A2.1 Classification of spots

Altogether we collected 2499 tourist spots. For groups 1 to 3 and 5 all spots mentioned by the sources were considered. We assume that a local source always presents the most elaborate choice of spots in order to raise revenue through tourism expenditure in the region. Therefore, from the local Chinese sources only those spots that were mentioned before by the other source groups were included in the database. This explains the relatively low number of total collected spots. Generally, a considered spot was only included in the final database, when it was mentioned by at least two sources of separate groups.

We finally extracted a database of 1325 important tourist spots for the whole of China. We further added information for classification of these spots. In order to do so we oriented ourselves along the classification the UNESCO (UNESCO 2006) uses for its heritage sites[4], which is cultural or natural or both. Only, we termed the latter CN as a combination out of cultural (C) and natural (N)[5]. Appendix table 3 gives an overview. We furthermore added another classification of other (O), including all spots that cannot be exclusively associated with culture or nature[6]. This group includes, for instance, golf courses, which are neither a natural sight - as they are artificially built, nor a cultural sight - as they do not represent a cultural item, unless sports were to be perceived as cultural. Any spot that was represented in two classifications at a time –always in combination with O – falls under the classification of OM. These are for example the Dujiangyan Irrigation System in Sichuan, which is on the one hand a cultural feature, as it was started by Li Bing 250 BC, but it is still in use as a flood regulation structure and therefore constantly modernised and rebuild to latest standards. A classification either into C or O would not pay this tourist spot justice, therefore it is included into OM. OM-combinations of O and N are mostly resembling natural sights that are scenic and well known for specific sports activities, such as the Mengdong River in Hunan, which is a popular rafting area. Altogether there are 42 OM spots in the database, a mere 3.2%, which shows that most spots could clearly be classified within the four units of C, CN, N and O.

An additional classification aims at reflecting the time epoch most important for C, CN and to some extent O spots. We distinguished into the
- present modern times (pres) beginning with the founding of the People's Republic of China in 1949
- the revolutionary period (rev) from 1911 to 1949
- the imperial time (imp) starting with the first imperial dynasty that unified the country Qin (221 BC) until the fall of the last dynasty Qing in 1911
- the antiquity period (ant) with the mystic dynasties of Xia, Shang and Zhou (2200 BC – 221 BC)
- and the prehistorical period (preh) of paleolithic, neolithic and bronze ages (until 2200 BC).

Appendix table 3 shows that most attributions were straightforward - e.g. architecture is C, and nature, as for example lakes, are N – but there are some features that can be found in two distinct classes.

Gardens are considered N as botanical gardens, but gardens that predominantly combine architecture and nature – as typical for Chinese horticulture (Schwickert 1989) -, e.g. the Classical Gardens of Suzhou in Jiangsu province, are classified CN. Likewise is any garden with major integrated temple complexes.
Equally, Hot springs and Pools are generally considered N, if not combined with ancient temples or utility architecture, which turns them into CN.
All Parks are N including the public parks (*gongyuan*) that are featured in every Chinese town or city[7]. That way only parks with temple complexes (that must be at least from pre-1949) are considered CN. Exhibition and event parks, such as Science and Technology Parks, Film Parks and Amusement Parks are O.
Mountains are classified as N, unless there are major temples situated on them, in this case they are CN. All sacred or holy mountains of China - these are the five holy mountains (*wu yue*) and four major Buddhist and Daoist mountains each - are also CN. Only one mountain, that is exclusively brought into context with a temple sight counts as C. Appendix table 4 shows an overview of all major Chinese mountains.
Museums are distinguished into Natural Museums that are classified CN, as they are not a natural feature themselves, museums with cultural focus are C, and other kind of museums – e.g. industrial ones – are O.
Towns as tourism centres, e.g. seaside resorts, are CN. Cities well known for their ancient, historical parts and former dynastic capitals are C. Towns as centres of special crafts and industries are O. Ethnic Villages range under C. Whereas Ethnic Festivals are CN, as these are mostly linked to natural features as well, Religious Festivals are C and all other Festivals are O.

A2.2 Filtering important spots

As a control factor we included a group '0' in the qualitative analysis stage, that indicates which tourism spots are either included in the World Heritage Sites of the UNESCO or the CNTA list of Major National Scenic Resorts. The latter list was verified by the list of Most Famous Sites (*guojia zhongdian lüyou fengjingqu*) by Yiqilai[8]. Surprisingly, the Chinese UNESCO list, published by CNTA deviates from the official UNESCO list. Altogether 3 sites were missing: two of which were classified UNESCO site only after 2001 (These are the Three parallel rivers of Yunnan and the Capital cities and tombs of the Koguryo Kingdom in Jilin). Therefore, this proves that the CNTA information on the web is outdated. One site was classified in the year 2001 and was also not included (Yungang Shikou (Grottoes) in Shanxi). A comparison with the Yiqilai list (in Chinese) showed even more and different deviations[9].

The only list on the web for the UNESCO sites of Chinese origin, that was complete, was provided by the Travel-China-Guide. We therefore adopted the index-system of China's major attractions by this provider and included all entries in our database, irrespective if they would have been included by our sampling system (i.e. mentioned by at least two sources out of two separate groups)[10]. Even the use of the Travel-China-Guide-index as an active control group still excluded the Koguryo Kingdom remains from our database, which again is probably due to the fact, that it was assigned UNESCO status only in 2004 and was quite unknown before. The same applies to the Three parallel rivers of Yunnan. A third UNESCO site was included in the database only by its representation through the index-system: Dali ancient town in Yunnan. Altogether 27 spots of the '0' control group are not included in the database. Most of them are N spots, mainly mountains.

Endnotes Appendix 1:

[1] As there are no county data on tourist arrivals for China.
[2] In Table 1 this source ranges under half-commercial, half-official, as the Xi'an International Studies University is involved.
[3] Most features mentioned in the foreign sources are clearly classified as C (cultural) or N (natural) and only seldom as O (other) features. Please refer to the next paragraph on classification of spots for details of methodology.
[4] Although we do not adopt it for the individual spots, but re-define the categories. Further our CN classification does not resemble UNESCO's 'cultural landscapes'.
[5] The CN classification pays justice to the fact that often nature cannot be viewed in isolation from culture (Richards 2000). Sofield and Li (1998) formulate that 'the distinctions which might be drawn in other countries between cultural forms and physical features are often not possible in China' (p.379) and 'many of the most scenic localities are not only a gift of nature but also the product of thousands of years of wisdom and hard work by Chinese people' (p.378, after Zhang 1995, p.43).
[6] The O and OM classifications are stimulated by Shaw and Williams' (2004) view on natural theme park attractions.
[7] This may seem inadequate to the Western perception of a park, as the Chinese *gongyuan* are sometimes very small and mostly very artificial. They are widely paved and used as assembling points by the urban population to pursue *qigong* gymnastics, play Mahjong or dance waltz. But these parks serve the same purpose as larger and more natural ones in the West, i.e. to be a place to escape to from small apartments in urban areas (compare Schwickert 1989); this way it largely substitutes the lack of an own garden or balcony. Cultural preferences may be different, but the intention of providing these parks is comparable, therefore we include the *gongyuan* in N.
[8] With only one exception: Dujiangyan in Sichuan was not included in here.
[9] In contrast to CNTA this list included the Three parallel rivers of Yunnan, but Yungang Shikou and the Koguryo Kingdom remains were equally missing. Instead of that the Ming tombs in Beijing were represented three times under different names. This also shows that a qualitative approach to the data is inevitable, as matching numbers could mislead.
[10] There are in fact six entries by the index that we could not verify with other sources. These were excluded from our database. They make 2,3% from the whole index-list.

Group number	Number of sources in group	Source specifications	Source year	Mode of information selection	Mode of source	Source language	Level	Targeted at
1	one	www.cnta.com (+ comparison to www. 17lai.com)	end 2001 (regression analysis); 2001-2004 qualitative analysis	absolute occurrence in ranking system 4A - A	Chinese official	English and Chinese	National	foreign + domestic tourists
2	two	www.cnta.com; www.china.org	both websites 2004	absolute occurrence	Chinese official	English and Chinese	National	foreign + domestic tourists
3	one	www.travelchinaguide.com	websites 2004/2005	absolute occurrence in ranking system	Chinese official and commercial	English	National	mostly foreign tourists
4	one to two depending on province	refer to separate list of local sources (A1, table 2)	websites 2004/2005	absolute occurrence	Chinese official	Chinese (in exceptional cases also English)	Provincial / local	mostly domestic tourists
5	two	Let's go publications (ed.) (2000): *Let's go: China.* Macmillan. Basingstoke and Oxford; Cummings et al. (1991): *ChinaLonely Planet*. Hawthorn. Berkeley.	1991 and 2000	absolute occurrence	Commercial english language guides	English	National	foreign travellers, mostly individual

Appendix 1 table 1: Source groups of provincial level analysis

Province	Local sources
Anhui	www.ahta.com.cn
Beijing	www.bjta.gov.cn; www.visitbeijing.com
Chongqing	www.cqta.gov.cn
Fujian	www.fjta.com
Gansu	www.joingansu.com; www.chinasilkroad.com
Guangdong	www.gdtravel.com
Guangxi	www.gxta.gov.cn
Guizhou	www.gz-travel.net
Hainan	http://hn.auyou.com; www.sun-sand-sea.com
Hebei	http://hb.auyou.com; www.hebeitour.com.cn
Heilongjiang	www.longtour.net
Henan	www.hnta.cn
Hubei	www.hubeitour.gov.cn; http://hubei.auyou.com
Hunan	http://hunan.auyou.com; www.hnt.gov.cn
Jiangsu	www.jstour.com
Jiangxi	http://jx.auyou.com; www.travel-jx.com
Jilin	http://jl.auyou.com; www.gotojilin.com
Liaoning	www.lntour.gov.cn
Nei Menggu	www.nmtravel.net; www.nmtour.gov.cn
Ningxia	http://nx.auyou.com; www.nx.com.cn
Qinghai	www.qhly.gov.cn; http://qh.auyou.com
Shaanxi	www.sxtour.com
Shandong	www.sdta.cn; http://sd.auyou.com
Shanghai	www.shanghaitour.net; http://sh.auyou.com
Shanxi	www.sxta.com.cn
Sichuan	www.scta.gov.cn
Tianjin	www.tj66.com.cn; www.tjtour.cn
Xinjiang	www.xinjiangtour.gov.cn
Xizang	www.tibettour.com.cn; http://xz.auyou.com
Yunnan	www.traveloyunnan.com.cn
Zhejiang	www.tourzj.com

Appendix1 table 2: Local sources

NATURAL	**N**	Botanical Gardens
		Gorges
		Caves
		Rivers
		Mountains/Hills (except with major temple complexes; see CN)
		Scenic Areas
		Forest Parks
		Grasslands
		Hot Springs
		Pools
		Lakes
		Deserts
		Parks (including all gongyuan)
MIXED	**CN**	Parks with Temple Complexes (pre-1949)
		Mountains with Temple Complexes (including all holy mountains)
		Gardens with Temple Complexes
		Pools and Hot Springs (within temple complexes)
		Natural Museums
		Towns as tourism centres (e.g. seaside resorts)
		Ethnic Festivals
CULTURAL	**C**	Towers
		Tombs /Mausoleums
		Pagodas
		Imperial Palaces
		Temples / Churches / Mosques / Monasteries
		Ruins
		Former Residences / Birthplaces of Famous People
		Memoial Halls
		Squares
		Bridges
		Museums (except Natural Museums)
		Cultural Parks
		Ethnic Villages
		Ancient Towns, Towns as dynastic capitals
		Religious Festivals
		Ethnic Markets
OTHERS	**O**	Aquarium
		Zoos
		Science and Technology Parks
		Golf Clubs
		Film Parks
		Amusement Parks
		TV Towers / Skyscrapers
		Art Galleries
		Exhibitions / Fairs / Performances
		Towns as centres of special crafts or industries
		Festivals (except ethnic or religious)
		Markets (tourism and industrial)

		Other Museums (e.g. industrial)
mixed with O	**OM**	
Time periods	**pres**	present modern times (since 1949)
	rev	revolutionary (1911-1945)
	imp	imperial (221 BC - 1911)
	ant	antiquity (2200 BC - 221 BC)
	preh	prehistorical (until 2200 BC)

Appendix 1 table 3: Classification key

Province	Mountains *(wu yue)*
Anhui	Huangshan, Jiuhuashan, Qiyunshan, Tianzhushan, Langyashan
Beijing	
Chongqing	Jinyunshan, Jinfoshan
Fujian	Wuyishan, Qingyuanshan, Wanshishan, Tailaoshan
Gansu	Maijishan
Guangdong	Xiqiaoshan, Danxiashan
Guangxi	Huashan, Qingxiushan
Guizhou	Fanjingshan
Hainan	
Hebei	Cangyanshan
Heilongjiang	
Henan	*Songshan*, Jigongshan
Hubei	Wudangshan, Dahongshan
Hunan	*Hengshan*, Shaoshan
Jiangsu	Zhongshan, Tiantaishan
Jiangxi	Lushan, Longhushan, Jingganshan, Sanqingshan
Jilin	
Liaoning	Qianshan
NeiMenggu	
Ningxia	
Qinghai	
Shaanxi	*Huashan*, Lishan
Shandong	*Taishan*, Laoshan
Shanghai	
Shanxi	*Hengshan*, Wutaishan
Sichuan	Emeishan, Qingchengshan, Gonggashan
Tianjin	
Xinjiang	Tianshan
Xizang	
Yunnan	Yulongxueshan
Zhejiang	Putuoshan, Yandangshan, Tiantaishan

Appendix 1 table 4: Mountains in China

Appendix 2: Distribution of spots per province and classification

Rank	Region	Tourist Spots total	Region	Number of C spots	Region	Number of CN spots	Region	Number of N spots	Region	Number of O spots	Region	Number of OM spots
1	YN	110	YN	39	JS	26	YN	46	HLJ	17	HLJ	5
2	JS	98	S“X	37	YN	16	SD	36	GD	12	GD	4
3	BJ	82	BJ	36	BJ	15	GX	29	JS	10	JS	4
4	SD	77	JS	33	GX	13	JS	25	HeN	9	SX	3
5	GX	63	SX	32	SD	12	GZ	23	SD	9	YN	3
6	GD	61	HeN	30	HeB	10	BJ	22	BJ	8	NX	2
7	HLJ	57	SH	29	SH	9	HLJ	19	SH	7	JX	2
8	SH	52	XZ	28	ZJ	9	HaiN	17	YN	6	TJ	2
9	ZJ	52	GD	26	XJ	6	LN	16	JL	5	XJ	2
10	HeN	46	ZJ	22	SC	6	ZJ	16	LN	5	SH	2
11	SX	46	HeB	20	GZ	6	AH	15	TJ	4	ZJ	2
12	HeB	45	SD	19	HLJ	5	FJ	14	SC	4	GX	2
13	S“X	45	HuN	16	GD	5	GD	14	HeB	4	JL	1
14	GZ	41	GX	16	HuB	4	HuN	13	FJ	3	HuB	1
15	LN	40	GS	15	GS	4	SC	12	ZJ	3	AH	1
16	XZ	40	LN	15	TJ	4	HeB	11	GX	3	HuN	1
17	SC	37	TJ	14	HuN	4	JL	10	QH	2	SC	1
18	HuN	36	SC	14	S“X	4	XJ	8	NM	2	LN	1
19	XJ	29	NX	13	SX	4	CQ	7	HuB	2	XZ	1
20	TJ	28	NM	11	FJ	3	JX	7	GS	2	SD	1
21	AH	27	HuB	11	LN	3	NM	7	HaiN	2	BJ	1
22	HaiN	27	XJ	11	XZ	3	XZ	7	XJ	2	CQ	0
23	FJ	25	GZ	11	HeN	3	HuB	6	HuN	2	FJ	0
24	GS	25	HLJ	11	CQ	2	QH	5	SX	2	GS	0
25	HuB	24	JX	10	JX	2	SX	5	CQ	1	GZ	0
26	JL	22	CQ	9	AH	2	SH	5	XZ	1	HaiN	0
27	JX	21	AH	9	HaiN	2	GS	4	GZ	1	HeB	0
28	NM	21	JL	6	NX	1	TJ	4	AH	0	HeN	0
29	CQ	19	HaiN	6	NM	1	S“X	4	JX	0	NM	0
30	NX	18	FJ	5	JL	0	HeN	4	NX	0	QH	0
31	QH	11	QH	4	QH	0	NX	2	S“X	0	S“X	0

Working Papers

Research Unit Sustainability and Global Change

Hamburg University and Centre for Marine and Atmospheric Science

Schwoon, M. (2006), *Learning-by-doing, Learning Spillovers and the Diffusion of Fuel Cell Vehicles*, **FNU-112** (submitted).

Strzepek, K.M., G.W. Yohe, R.S.J. Tol and M. Rosegrant (2006), *The Value of the High Aswan Dam to the Egyptian Economy*, **FNU-111** (submitted).

Schwoon, M. (2006), *A Tool to Optimize the Initial Distribution of Hydrogen Filling Stations*, **FNU-110** (submitted).

Tol, R.S.J., K.L. Ebi and G.W. Yohe (2006), *Infectious Disease, Development, and Climate Change: A Scenario Analysis*, **FNU-109** (submitted).

Lau, M.A. (2006), *An analysis of the travel motivation of tourists from the People's Republic of China,* **FNU-108** (submitted).

Lau, M.A. and R.S.J. Tol (2006), *The Chinese are coming – An analysis of the preferences of Chinese holiday makers at home and abroad*, **FNU-107** (submitted).

Röckmann, C., R.S.J. Tol, U.A. Schneider, and M.A. St.John (2006), *Rebuilding the Eastern Baltic cod stock under environmental change - Part II: The economic viability of a marine protected area.* **FNU-106** (submitted)

Ronneberger, K., M. Berrittella, F. Bosello and R.S.J. Tol (2006), *KLUM@GTAP: Introducing biophysical aspects of land-use decisions into a general equilibrium model. A coupling experiment,* **FNU-105** (submitted).

Link, P.M. and Tol, R.S.J. (2006), *Economic impacts on key Barents Sea fisheries arising from changes in the strength of the Atlantic thermohaline circulation*, **FNU-104** (submitted).

Link, P.M. and Tol, R.S.J. (2006), *The economic impact of a shutdown of the Thermohaline Circulation: an application of FUND*, **FNU-103** (submitted).

Tol, R.S.J. (2006), *Integrated Assessment Modelling*, **FNU-102** (submitted).

Tol, R.S.J. (2006), *Carbon Dioxide Emission Scenarios for the USA*, **FNU-101** (submitted).

Tol, R.S.J., S.W. Pacala and R.H. Socolow (2006), *Understanding Long-Term Energy Use and Carbon Dioxide Emissions in the USA*, **FNU-100** (submitted).

Sesabo, J.K, H. Lang and R.S.J. Tol (2006), *Perceived Attitude and Marine Protected Areas (MPAs) establishment: Why households' characteristics matters in Coastal resources conservation initiatives in Tanzania*, **FNU-99** (submitted).

Tol, R.S.J. (2006), *The Polluter Pays Principle and Cost-Benefit Analysis of Climate Change: An Application of* FUND, **FNU-98** (submitted)

Tol, R.S.J. and G.W. Yohe (2006), *The Weakest Link Hypothesis for Adaptive Capacity: An Empirical Test*, **FNU-97** (submitted, *Global Environmental Change*)

Berrittella, M., K. Rehdanz, R.Roson and R.S.J. Tol (2005), *The Economic Impact of Water Pricing: A Computable General Equilibrium Analysis*, **FNU-96** (submitted)

Sesabo, J.K. and R. S. J. Tol (2005), *Technical Efficiency and Small-scale Fishing Households in Tanzanian coastal Villages: An Empirical Analysis*, **FNU-95** (submitted)

Lau, M.A. (2005), *Adaptation to Sea-level Rise in the People's Republic of China – Assessing the Institutional Dimension of Alternative Organisational Frameworks*, **FNU-94** (submitted)

Berrittella, M., A.Y. Hoekstra, K. Rehdanz, R. Roson and R.S.J. Tol (2005), *The Economic Impact of Restricted Water Supply: A Computable General Equilibrium Analysis*, **FNU-93** (submitted)

Tol, R.S.J. (2005), *Europe's Long Term Climate Target: A Critical Evaluation*, **FNU-92** (forthcoming, *Energy Policy*)

Hamilton, J.M. (2005), *Coastal Landscape and the Hedonic Price of Accomodation*, **FNU-91** (submitted)

Hamilton, J.M., D.J. Maddison and R.S.J. Tol (2005), *Climate Preferences and Destination Choice: A Segmentation Approach*, **FNU-90** (submitted)

Zhou, Y. and R.S.J. Tol (2005), *Valuing the Health Impacts from Particulate Air Pollution in Tianjin*, **FNU-89** (submitted)

Röckmann, C. (2005), *International Cooperation for Sustainable Fisheries in the Baltic Sea,* **FNU-88** (forthcoming, in Ehlers,P./Lagoni,R. (Eds.): *International Maritime Organisations and their Contribution towards a Sustainable Marine Development*.)

Ceronsky, M., D. Anthoff, C. Hepburn and R.S.J. Tol (2005), *Checking the price tag on catastrophe: The social cost of carbon under non-linear climate response* **FNU-87** (submitted, *Climatic Change*)

Zandersen, M. and R.S.J. Tol (2005), *A Meta-analysis of Forest Recreation Values in Europe,* **FNU-86** (submitted, *Journal of Environmental Management*)

Heinzow, T., R.S.J. Tol and B. Brümmer (2005), Offshore-Windstromerzeugung in der Nordsee -eine ökonomische und ökologische Sackgasse? **FNU-85** (*Energiewirtschaftliche Tagesfragen*, **56** (3), 68-73)

Röckmann, C., U.A. Schneider, M.A. St.John, and R.S.J. Tol (2005), *Rebuilding the Eastern Baltic cod stock under environmental change - a preliminary approach using stock, environmental, and management constraints,* **FNU-84** (forthcoming, *Natural Resource Modeling*)

Tol, R.S.J. and G.W. Yohe (2005), *Infinite uncertainty, forgotten feedbacks, and cost-benefit analysis of climate policy,* **FNU-83** (submitted, *Climatic Change*)

Osmani, D. and R.S.J. Tol (2005), *The case of two self-enforcing international agreements for environmental protection*, **FNU-82** (submitted)

Schneider, U.A. and B.A. McCarl, (2005), *Appraising Agricultural Greenhouse Gas Mitigation Potentials: Effects of Alternative Assumptions*, **FNU-81** (submitted)

Zandersen, M., M. Termansen, and F.S. Jensen, (2005), *Valuing new forest sites over time: the case of afforestation and recreation in Denmark,* **FNU-80** (submitted)

Guillerminet, M.-L. and R.S.J. Tol (2005), *Decision making under catastrophic risk and learning: the case of the possible collapse of the West Antarctic Ice Sheet*, **FNU-79** (submitted, *Climatic Change*)

Nicholls, R.J., R.S.J. Tol and A.T. Vafeidis (2005), *Global estimates of the impact of a collapse of the West Antarctic Ice Sheet: An application of FUND,* **FNU-78** (submitted, *Climatic Change*)

Lonsdale, K., T.E. Downing, R.J. Nicholls, D. Parker, A.T. Vafeidis, R. Dawson and J.W. Hall (2005), *Plausible responses to the threat of rapid sea-level rise for the Thames Estuary,* **FNU-77** (submitted, *Climatic Change*)

Poumadère, M., C. Mays, G. Pfeifle with A.T. Vafeidis (2005), *Worst Case Scenario and Stakeholder Group Decision: A 5-6 Meter Sea Level Rise in the Rhone Delta, France,* **FNU-76** (submitted, *Climatic Change*)

Olsthoorn, A.A., P.E. van der Werff, L.M. Bouwer and D. Huitema (2005), *Neo-Atlantis: Dutch Responses to Five Meter Sea Level Rise,* **FNU-75** (submitted, *Climatic Change*)

Toth, F.L. and E. Hizsnyik (2005), *Managing the inconceivable: Participatory assessments of impacts and responses to extreme climate change*, **FNU-74** (submitted)

Kasperson, R.E. M.T. Bohn and R. Goble (2005), *Assessing the risks of a future rapid large sea level rise: A review,* **FNU-73** (submitted, *Climatic Change*)

Schleupner, C. (2005), *Evaluation of coastal squeeze and beach reduction and its consequences for the Caribbean island Martinique,* **FNU-72** (submitted)

Schleupner, C. (2005), *Spatial Analysis As Tool for Sensitivity Assessment of Sea Level Rise Impacts on Martinique,* **FNU-71** (submitted)

Sesabo, J.K. and R.S.J. Tol (2005), *Factors affecting Income Strategies among households in Tanzanian Coastal Villages: Implication for Development-Conservation Initiatives,* **FNU-70** (submitted)

Fisher, B.S., G. Jakeman, H.M. Pant, M. Schwoon. and R.S.J. Tol (2005), *CHIMP: A Simple Population Model for Use in Integrated Assessment of Global Environmental Change*, **FNU-69** (forthcoming, *Integrated Assessment Journal*)

Rehdanz, K. and R.S.J. Tol (2005), *A No Cap But Trade Proposal for Greenhouse Gas Emission Reduction Targets for Brazil, China and India*, **FNU-68** (submitted)

Zhou, Y. and R.S.J. Tol (2005), *Water Use in China's Domestic, Industrial and Agricultural Sectors: An Empirical Analysis*, **FNU-67** (*Water Science and Technoloy: Water Supply*, **5** (6), 85-93)

Rehdanz, K. (2005), *Determinants of Residential Space Heating Expenditures in Germany*, **FNU-66** (forthcoming, *Energy Economics*)

Ronneberger, K., R.S.J. Tol and U.A. Schneider (2005), *KLUM: A Simple Model of Global Agricultural Land Use as a Coupling Tool of Economy and Vegetation,* **FNU-65** (submitted, *Climatic Change*)

Tol, R.S.J. (2005), *The Benefits of Greenhouse Gas Emission Reduction: An Application of* FUND, **FNU-64** (submitted, *Global Environmental Change*)

Röckmann, C., M.A. St.John, U.A. Schneider, F.W. Köster, F.W. and R.S.J. Tol (2006), *Testing the implications of a permanent or seasonal marine reserve on the population dynamics of Eastern Baltic cod under varying environmental conditions,* **FNU-63-revised** (submitted)

Letsoalo, A., J. Blignaut, T. de Wet, M. de Wit, S. Hess, R.S.J. Tol and J. van Heerden (2005), *Triple Dividends of Water Consumption Charges in South Africa*, **FNU-62** (submitted, *Water Resources Research*)

Zandersen, M., Termansen, M., Jensen,F.S. (2005), *Benefit Transfer over Time of Ecosystem Values: the Case of Forest Recreation,* **FNU-61** (submitted)

Rehdanz, K., Jung, M., Tol, R.S.J. and Wetzel, P. (2005), *Ocean Carbon Sinks and International Climate Policy*, **FNU-60** (forthcoming, *Energy Policy*)

Schwoon, M. (2005), *Simulating the Adoption of Fuel Cell Vehicles*, **FNU-59** (submitted)

Bigano, A., J.M. Hamilton and R.S.J. Tol (2005), *The Impact of Climate Change on Domestic and International Tourism: A Simulation Study*, **FNU-58** (submitted)

Bosello, F., R. Roson and R.S.J. Tol (2004), *Economy-wide estimates of the implications of climate change: Human health*, **FNU-57** (*Ecological Economics,* **58**, 579-591)

Hamilton, J.M. and M.A. Lau (2004) *The role of climate information in tourist destination choice decision-making,* **FNU-56** (forthcoming, Gössling, S. and C.M. Hall (eds.), Tourism and Global Environmental Change. London: Routledge)

Bigano, A., J.M. Hamilton and R.S.J. Tol (2004), *The impact of climate on holiday destination choice*, **FNU-55** (forthcoming, *Climatic Change*)

Bigano, A., J.M. Hamilton, M. Lau, R.S.J. Tol and Y. Zhou (2004), *A global database of domestic and international tourist numbers at national and subnational level*, **FNU-54** (submitted)

Susandi, A. and R.S.J. Tol (2004), *Impact of international emission reduction on energy and forestry sector of Indonesia*, **FNU-53** (submitted)

Hamilton, J.M. and R.S.J. Tol (2004), *The Impact of Climate Change on Tourism and Recreation*, **FNU-52** (forthcoming, Schlesinger et al. (eds.), Cambridge University Press)

Schneider, U.A. (2004), *Land Use Decision Modelling with Soil Status Dependent Emission Rates*, **FNU-51** (submitted)

Link, P.M., U.A. Schneider and R.S.J. Tol (2004), *Economic impacts of changes in fish population dynamics: the role of the fishermen's harvesting strategies*, **FNU-50** (submitted)

Berritella, M., A. Bigano, R. Roson and R.S.J. Tol (2004), *A General Equilibrium Analysis of Climate Change Impacts on Tourism*, **FNU-49** (forthcoming, *Tourism Management*)

Tol, R.S.J. (2004), *The Double Trade-Off between Adaptation and Mitigation for Sea Level Rise: An Application of* FUND, **FNU-48** (forthcoming, *Mitigation and Adaptation Strategies for Global Change*)

Erdil, Erkan and Yetkiner, I. Hakan (2004), *A Panel Data Approach for Income-Health Causality,* **FNU-47**

Tol, R.S.J. (2004), *Multi-Gas Emission Reduction for Climate Change Policy: An Application of* FUND, **FNU-46** (forthcoming, *Energy Journal*)

Tol, R.S.J. (2004), *Exchange Rates and Climate Change: An Application of* FUND*,* **FNU-45** (forthcoming, *Climatic Change*)

Gaitan, B., Tol, R.S.J, and Yetkiner, I. Hakan (2004), *The Hotelling's Rule Revisited in a Dynamic General Equilibrium Model*, **FNU-44** (submitted)

Rehdanz, K. and Tol, R.S.J (2004), *On Multi-Period Allocation of Tradable Emission Permits*, **FNU-43** (submitted)

Link, P.M. and Tol, R.S.J. (2004), *Possible Economic Impacts of a Shutdown of the Thermohaline Circulation: An Application of* FUND, **FNU-42** (*Portuguese Economic Journal*, **3**, 99-114)

Zhou, Y. and Tol, R.S.J. (2004), *Evaluating the costs of desalination and water transport,* **FNU-41** (f*Water Resources Research,* **41** (3), W03003)

Lau, M. (2004), *Küstenzonenmanagement in der Volksrepublik China und Anpassungsstrategien an den Meeresspiegelanstieg,***FNU-40** (*Coastline Reports*, Issue 1, pp.213-224.)

Rehdanz, K. and Maddison, D. (2004), *The Amenity Value of Climate to German Households*, **FNU-39** (submitted)

Bosello, F., Lazzarin, M., Roson, R. and Tol, R.S.J. (2004), *Economy-wide Estimates of the Implications of Climate Change: Sea Level Rise*, **FNU-38** (submitted, *Environmental and Resource Economics*)

Schwoon, M. and Tol, R.S.J. (2004), *Optimal CO_2-abatement with socio-economic inertia and induced technological change*, **FNU-37** (submitted, *Energy Journal*)

Hamilton, J.M., Maddison, D.J. and Tol, R.S.J. (2004), *The Effects of Climate Change on International Tourism,* **FNU-36** (*Climate Research*, **29**, 255-268)

Hansen, O. and R.S.J. Tol (2003), *A Refined Inglehart Index of Materialism and Postmaterialism*, **FNU-35** (submitted)

Heinzow, T. and R.S.J. Tol (2003), *Prediction of Crop Yields across four Climate Zones in Germany: An Artificial Neural Network Approach,* **FNU-34** (submitted, *Climate Research*)

Tol, R.S.J. (2003), *Adaptation and Mitigation: Trade-offs in Substance and Methods,* **FNU-33** (*Environmental Science and Policy*, **8** (6), 572-578)

Tol, R.S.J. and T. Heinzow (2003), *Estimates of the External and Sustainability Costs of Climate Change*, **FNU-32** (submitted)

Hamilton, J.M., Maddison, D.J. and Tol, R.S.J. (2003), *Climate change and international tourism: a simulation study,* **FNU-31** (*Global Environmental Change,* **15** (3), 253-266)

Link, P.M. and R.S.J. Tol (2003), *Economic impacts of changes in population dynamics of fish on the fisheries in the Barents Sea*, **FNU-30** (*ICES Journal of Marine Science*, **63** (4), 611-625)

Link, P.M. (2003), *Auswirkungen populationsdynamischer Veränderungen in Fischbeständen auf die Fischereiwirtschaft in der Barentssee*, **FNU-29** (*Essener Geographische Arbeiten*, **35**, 179-202)

Lau, M. (2003), *Coastal Zone Management in the People's Republic of China – An Assessment of Structural Impacts on Decision-making Processes*, **FNU-28** (*Ocean & Coastal Management*, No. 48 (2005), pp. 115-159.)

Lau, M. (2003), *Coastal Zone Management in the People's Republic of China – A Unique Approach?*, **FNU-27** (*China Environment Series,* Issue 6, pp. 120-124; http://www.wilsoncenter.org/topics/pubs/7-commentaries.pdf)

Roson, R. and R.S.J. Tol (2003), *An Integrated Assessment Model of Economy-Energy-Climate – The Model Wiagem: A Comment*, **FNU-26** (*Integrated Assessment,* **6** (1), 75-82)

Yetkiner, I.H. (2003), *Is There An Indispensable Role For Government During Recovery From An Earthquake? A Theoretical Elaboration*, **FNU-25**

Yetkiner, I.H. (2003), *A Short Note On The Solution Procedure Of Barro And Sala-i-Martin for Restoring Constancy Conditions*, **FNU-24**

Schneider, U.A. and B.A. McCarl (2003), *Measuring Abatement Potentials When Multiple Change is Present: The Case of Greenhouse Gas Mitigation in U.S. Agriculture and Forestry*, **FNU-23** (submitted)

Zhou, Y. and Tol, R.S.J. (2003), *The Implications of Desalination to Water Resources in China - an Economic Perspective*, **FNU-22** (*Desalination*, **163** (4), 225-240)

Yetkiner, I.H., de Vaal, A., and van Zon, A. (2003), *The Cyclical Advancement of Drastic Technologies*, **FNU-21**

Rehdanz, K. and Maddison, D. (2003) *Climate and Happiness*, **FNU-20** (*Ecological Economics,* **52** 111-125)

Tol, R.S.J., (2003), *The Marginal Costs of Carbon Dioxide Emissions: An Assessment of the Uncertainties*, **FNU-19** (*Energy Policy,* **33** (16), 2064-2074).

Lee, H.C., B.A. McCarl, U.A. Schneider, and C.C. Chen (2003), *Leakage and Comparative Advantage Implications of Agricultural Participation in Greenhouse Gas Emission Mitigation*, **FNU-18** (submitted).

Schneider, U.A. and B.A. McCarl (2003), *Implications of a Carbon Based Energy Tax for U.S. Agriculture*, **FNU-17** (submitted).

Tol, R.S.J. (2002), *Climate, Development, and Malaria: An Application of* FUND, **FNU-16** (forthcoming, *Climatic Change*).

Hamilton, J.M. (2003), *Climate and the Destination Choice of German Tourists,* **FNU-15** (revised and submitted).

Tol, R.S.J. (2002), *Technology Protocols for Climate Change: An Application of* FUND, **FNU-14** (*Climate Policy,* **4**, 269-287).

Rehdanz, K (2002), *Hedonic Pricing of Climate Change Impacts to Households in Great Britain*, **FNU-13** (forthcoming, *Climatic Change*).

Tol, R.S.J. (2002), *Emission Abatement Versus Development As Strategies To Reduce Vulnerability To Climate Change: An Application Of* FUND, **FNU-12** (forthcoming, *Environment and Development Economics*).

Rehdanz, K. and Tol, R.S.J. (2002), *On National and International Trade in Greenhouse Gas Emission Permits*, **FNU-11** (*Ecological Economics*, **54**, 397-416).

Fankhauser, S. and Tol, R.S.J. (2001), *On Climate Change and Growth*, **FNU-10** (*Resource and Energy Economics*, **27**, 1-17).

Tol, R.S.J.and Verheyen, R. (2001), *Liability and Compensation for Climate Change Damages – A Legal and Economic Assessment*, **FNU-9** (*Energy Policy*, **32** (9), 1109-1130).

Yohe, G. and R.S.J. Tol (2001), *Indicators for Social and Economic Coping Capacity – Moving Toward a Working Definition of Adaptive Capacity*, **FNU-8** (*Global Environmental Change*, **12** (1), 25-40).

Kemfert, C., W. Lise and R.S.J. Tol (2001), *Games of Climate Change with International Trade*, **FNU-7** (*Environmental and Resource Economics*, **28**, 209-232).

Tol, R.S.J., W. Lise, B. Morel and B.C.C. van der Zwaan (2001), *Technology Development and Diffusion and Incentives to Abate Greenhouse Gas Emissions*, **FNU-6** (submitted).

Kemfert, C. and R.S.J. Tol (2001), *Equity, International Trade and Climate Policy*, **FNU-5** (*International Environmental Agreements*, **2**, 23-48).

Tol, R.S.J., Downing T.E., Fankhauser S., Richels R.G. and Smith J.B. (2001), *Progress in Estimating the Marginal Costs of Greenhouse Gas Emissions*, **FNU-4**. (*Pollution Atmosphérique – Numéro Spécial: Combien Vaut l'Air Propre?*, 155-179).

Tol, R.S.J. (2000), *How Large is the Uncertainty about Climate Change?*, **FNU-3** (*Climatic Change*, **56** (3), 265-289).

Tol, R.S.J., S. Fankhauser, R.G. Richels and J.B. Smith (2000), *How Much Damage Will Climate Change Do? Recent Estimates*, **FNU-2** (*World Economics,* **1** (4), 179-206)

Lise, W. and R.S.J. Tol (2000), *Impact of Climate on Tourism Demand*, **FNU-1** (*Climatic Change*, **55** (4), 429-449).