

Cross-border flows of students for higher education: Push–pull factors and motivations of mainland Chinese students in Hong Kong and Macau

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Abstract. Within the context of broad literature on cross-border flows for higher education, this article examines the distinctive case of mainland Chinese students in Hong Kong and Macau. These territories are a sort of bridge between the fully domestic and the fully international. Hong Kong and Macau higher education plays a dual role, as a destination in itself for higher education and as a stepping-stone for students' further international development. Patterns in Hong Kong are slightly different from those in Macau, and the territories may thus be usefully compared with each other as well as taken as a pair for comparison with other parts of the world. The paper begins by noting the literature on the ways that push and pull factors influence student mobility, and then turns to motivations in pursuit of academic and professional growth, economic benefit, individual internationalisation, and enhanced social status. The paper shows that flows of mainland Chinese students are driven by both excess and differentiated demand. Analysis of the distinctive features of this pair of territories adds to wider conceptual understanding of the nature of cross-border flows for higher education.

Keywords: China, higher education, Hong Kong, international flows, Macau

Introduction

Cross-border mobility of students is a core component of the internationalisation of higher education. It has significant economic and academic implications, and is expected to grow considerably during the coming years. The dominant stream of cross-border student mobility is from less developed and newly-industrialised countries to western industrialised countries. China is already among the largest source countries, and is expected to become even more significant.

A strong literature already exists on some aspects of international student mobility (e.g. Lee and Tan 1984; McMahon 1992; Mazzarol and Soutar 2001; Altbach 2004), and parts of this literature focus on Chinese

students (e.g. Lampton et al. 1986; Orleans 1988; Deng 1990; Chen 1996; Zweig 2002; Chen and Liu 2003). However, patterns have changed significantly in recent years. The volume of movement has greatly increased, and the roles of governments in both sending and receiving students have changed from direct sponsors into regulators and facilitators. Market forces play an increasing role in matching demand and supply, and many students go abroad through their own channels rather than through government or institutional sponsorship. Partly as a result, student mobility is now viewed less as aid and more as trade. Cultural exchange has become less prominent as a motive, and economic development has become more prominent.

The present paper adds to the existing literature by focusing on an instructive hybrid in cross-border mobility and students' internationalisation. In 1997 and 1999 respectively, Hong Kong and Macau, which had been colonies of the United Kingdom and Portugal, reverted to Chinese administration. The territories retained considerable autonomy as Special Administrative Regions within China, and continued to operate their own laws, currencies and education systems. For students from mainland China, therefore, Hong Kong and Macau could be viewed as both domestic and external, and as Chinese institutions with international standards and global linkages. Analysis of patterns in the pair of territories adds an instructive element to the wider picture of cross-border mobility for higher education.

Much of the existing research on cross-border mobility focuses on the macro and meso levels of systems and institutions. The literature does touch on the motivating factors for individual students, but it does not give as much attention to this micro level as might be desired. The present paper addresses all three levels, and notes relationships between them. The paper shows similarities and differences between Hong Kong and Macau, and also takes these territories as a pair for contrast with other parts of the world.

The article begins with the broad literature on cross-border mobility in higher education. It then turns to the contexts of the three Chinese societies with which it is concerned: mainland China from which the students flow out, and the two destination territories of Hong Kong and Macau. The next sections present empirical data on the characteristics of the mainland Chinese students in the two territories, and on their reasons for choosing to study in Hong Kong and Macau. The paper concludes by linking findings to the broader literature, to show the way in which the analysis extends conceptual understanding.

Conceptual framework

Economic globalisation and higher education internationalisation are part of the macro context of international student mobility. Both globalisation and internationalisation are dynamic processes rather than fixed situations, and have different effects in different societies. While in some settings globalisation and internationalisation are seen as a threat, in other settings they are seen as opportunities (see e.g. Held et al. 1999; Stromquist and Monkman 2000; Ninnes and Hellstén 2005). In China, the opportunities have generally been considered stronger than the threats, and certainly the students and institutions on which this paper focuses have been keen to grasp new opportunities for alliances, influences, resources and interests in the new era. From the perspective of policy makers, internationalisation of higher education is a deliberate mechanism to achieve these goals; and recruitment of non-local students is part of the process of internationalisation.

International mobility of students not only contributes to the internationalisation of institutions but also impacts on the outlooks and subsequent careers and lifestyles of the students themselves. The present study includes focus on student motivation, and in particular examines the interplay between supply of student places and demand for those places. This analysis helps to show how supply and demand shape each other in dynamic relationships.

Altbach (1998, p. 240) presented what he called the push–pull model for international student mobility. He pointed out that some students were pushed by unfavourable conditions in their home countries, while others were pulled by scholarships and other opportunities in host countries. While some host societies have been ambivalent about non-local students, particularly when those students have been subsidised by the host governments, other societies have actively welcomed non-local students both as an economic investment and as a way to broaden the horizons of domestic students. The pull factors of the host countries have included advanced research facilities, congenial socio-economic and political environments, and the prospect of multinational classmates. The push factors create a generalised interest in overseas education but do not give specific direction to individuals, while the pull factors are specific to potential host countries and institutions (Davis 1995).

While the standard push–pull model is valuable as an explanatory mechanism, it has limitations. Both push and pull factors are external

forces which impact on actors' behaviours and choices, but much depends on the personal characteristics of the actors. These characteristics include socio-economic status, academic ability, gender, age, motivation, and aspiration. While some individuals choose to respond to push and pull forces, others do not do so. The present study examines personal characteristics in order to understand why different groups of students respond differently to similar push and pull forces.

One study of particular relevance to this article was conducted by Mazzarol and Soutar (2001), and focused on the external mobility of students from Taiwan, mainland China, India and Indonesia. Mazzarol and Soutar found (p. 57) that four motivating factors of particular importance were a perception that an overseas course of study was better than a local one; the students' ability to gain entry to particular programmes; a desire to improve understanding of foreign societies, particularly Western ones; and an intention to migrate after graduation. The research extended understanding of cross-border mobility by introducing micro level elements, including stakeholders' perceptions, accessibility and migrants' intentions, into macro level push-pull analyses. Such factors have also been evident in the motivations of mainland Chinese students in Hong Kong and Macau, though the factors have varied in significance among particular sub-groups. Examination of the interplay of external contextual factors and the internal characteristics and perceptions of actors (students and parents) facilitates more complete understanding of the responses of different students to similar push-pull forces.

Another study of particular relevance focused on high-achieving undergraduate students in Tsinghua University, Beijing (Zheng 2003). It indicated (p. 200) that among 241 respondents, 51.5% intended to continue their studies abroad, 38.5% had no intention to do so, and 10.0% were unsure. The author observed (p. 227) that the existing push-pull model mainly focused on the educational, economic and political dimensions of the sending and host countries, and that it underplayed social and cultural factors. Home countries and institutions not only have negative forces which push some students abroad, but also have positive forces to keep students at home. Similarly, potential host countries and institutions not only have positive forces which attract international students but also negative forces which repel them. The decisions that students finally make depend partly on the interplay of the push and pull factors at home and the push and pull

factors outside, and also on the students' personal characteristics and perceptions.

In line with this model, the present paper addresses not only the push/negative forces that drive students outward, but also the pull/positive forces that encourage students to stay at home. The pull forces at home include a desire to stay with one's family, awareness of the relevance of domestic education, and increasing internationalisation of domestic institutions. On the host side, forces which repel foreign students include increasing fees and other costs, restrictive policies on foreign students, uncertainties in visa approvals, tightening of immigration policies, and discrimination against students from particular countries due to the political and religious circumstances of host countries. The positive forces at home and negative forces abroad can be called reverse push-pull factors. Changes in the strength of these forces partially explain why the numbers of mainland Chinese applying to study in the USA, Canada and Europe decreased in the early years of the present century (Reisberg 2004, p. 11). To extend this understanding, the researchers focused on micro-level factors, namely the ways that students' characteristics, perceptions and motives influenced their destinations for external higher education.

For the purposes of this article, the motives of individual students were categorised in four groups: academic, economic, social and cultural, and political. Academic motives included pursuit of qualifications and professional development; economic motives included access to scholarships, estimated economic returns from study, and prospects for employment; social and cultural factors included a desire to obtain experience and understanding of other societies; and political motives embraced such factors as commitment to society and enhancement of political status and power. Some categories overlapped: for example in most cases economic advance was also achieved through professional development. However, the set of categories was useful for analytical purposes. Further mapping then became possible against variables such as individual students' academic ability, socio-economic background, age and gender.

Zheng (2003, p. 226) found that the factors which shaped students' intentions to study abroad could be ranked as follows: economic factors (29%), educational factors (27%), student's personal factors (15%), social factors (13%), cultural factors (9%), and political factors (7%). Most of these factors were external forces which impacted on students' choices, but personal factors were internal to the students. Zheng found

that economic, educational and personal factors were the most important determinants of students' intentions to study abroad. This was to some extent echoed by the present study, but with variations.

Contexts: Mainland China, Hong Kong and Macau

Mainland China: Economy, society and higher education

With 1.3 billion people, China is the most populated country in the world. In recent decades China has undergone dramatic economic development, with per capita Gross National Product (GNP) growing at an annual average of 9.2% between 1993 and 2002 (China 2003a, p. 57). This economic growth has raised both aspirations for higher education and demand for graduates.

In response, institutions of higher education have expanded markedly, but not enough to meet demand. Thus, between 1996 and 2002 enrolments jumped from 1.43 to 5.43 million (China 1997, p. 10; China 2003b, p. 7). That jump brought an enrolment rate in the region of 17% (Chen 2004, p. 23), but because of the size of China's population the absolute number of students who could not enter higher education remained huge.

While some of the students who could not secure university entrance accepted their fate, others sought ways around the obstacles. Some students repeated one or more years to resit the national university entry examinations, and others sought places outside mainland China, including in Hong Kong and Macau. Some of the students who went outside secured scholarships from the host countries, others gained sponsorship from employers or from national or provincial governments in China, and others paid for themselves. Although China had a low per capita GNP, at US\$ 998 in 2002 (China 2003a, p. 55), that average figure concealed wide disparities. China had increasing numbers of wealthy families who could easily afford the fees of external universities. Moreover, China's one-child policy permitted concentration of resources. The one-child policy had been initiated in 1979, and by the beginning of the 21st century the cohort of university-aged students was mainly formed from individuals who were the only children in their families.

In addition to the excess demand, which forced students who could not get places at home to look at external possibilities, was differentiated

demand from students who could get places at home but who preferred to go outside. This differentiated demand partly arose from perceptions that non-local study was prestigious, and partly from awareness that external programmes could offer better study conditions than were available domestically. Students also went outside to secure specialisms that were not available at home, and universities around the world distinguished themselves from counterparts in mainland China by their media of instruction and the quality of their academic staff.

As a result of these forces, large numbers of mainland Chinese students chose to go abroad. According to official statistics (China 2000), during the period 1978–1999, 320,000 mainland Chinese students were enrolled in over 100 foreign countries.¹ The most popular destinations were the USA, UK, Canada, Germany, France, Australia, Japan, and New Zealand. Between 1995 and 2000, 123,700 mainland Chinese students went abroad for higher education, among whom 27.3% were financed by employers or by the Chinese government but the others were either self-financed or received scholarships from the host governments or institutions (China 2001, p. 281). In 2000, mainland China was the largest source of foreign students in the USA, and it was also a major supplier of students elsewhere. Mainland China had also eclipsed other non-local sources of students in Hong Kong and Macau.

Hong Kong: Economy, society and higher education

Hong Kong has a population of approximately 6.8 million, of whom 95% are ethnic Chinese. During the 1980s Hong Kong, along with Singapore, Taiwan and South Korea, was known as one of the ‘Asian Tigers’ because of its strong economic growth (Sweeting 1995). In 2002, Hong Kong had a per capita Gross Domestic Product (GDP) of US\$24,000 (Hong Kong 2003, p. 458).

The formula accommodating the Hong Kong Special Administrative Region within the People’s Republic of China is known as ‘one country, two systems’. This means that Hong Kong has a high degree of autonomy, which includes maintenance of the capitalist system and way of life for at least 50 years following resumption of Chinese sovereignty. Nevertheless, the years following the transition have brought considerable strengthening of links between Hong Kong and the mainland.

Hong Kong’s higher education sector has 11 degree-awarding higher education institutions, of which eight are funded by the University

Grants Committee (UGC). Among these eight institutions, three are strongly research-oriented, namely the University of Hong Kong (HKU), the Chinese University of Hong Kong (CUHK), and the Hong Kong University of Science and Technology (HKUST). Alongside these institutions are various post-secondary bodies offering diplomas and associate degrees (Yung 2004). The international character of Hong Kong's universities is underscored by the characteristics of their academic staffs. Postiglione (1998, p. 32) noted that among the academics holding doctorates, approximately 90% earned their qualifications outside Hong Kong, mainly in Europe, North America and Australasia. Among the eight-UGC funded institutions, HKU and HKUST have policies of English as the medium of instruction, while the others use a mix of English and Chinese. Most of the Chinese instruction is in the local Cantonese dialect, but some is in Putonghua (Mandarin), the official spoken form of Chinese in both mainland China and Taiwan.

HKU is the oldest of the higher education institutions. It was founded in 1911 with a remit to serve not only Hong Kong but also China as a whole (Chan and Cunich 2002). Political developments constrained achievement of that broad remit for most of the 20th century; but at the end of the century enrolment of students from mainland China again began to grow. In parallel, expanding numbers of students from mainland China were evident in the other institutions, especially at the research-postgraduate level. In 1998/99 only 43 undergraduates from mainland China holding scholarships were enrolled in UGC-funded institutions, but this number increased to 329 in 2000/01. At the taught-postgraduate level, numbers of mainland Chinese students holding scholarships increased from 12 to 84 over that period; and at the research-postgraduate level they increased from 893 to 1,455. The cohorts of mainland students enrolled were set to expand further since the institutions were aware of increasing numbers of talented students in mainland China who could afford full-cost fees.

The Hong Kong government has by stages encouraged higher education institutions to recruit mainland Chinese students in order to attract talent and diversify the student population for global economic competition and a knowledge-based society. The government has relaxed visa requirements, permitted mainland graduates to seek employment, and removed institutional restrictions on numbers of fee-paying students. The quota for non-local undergraduates was doubled from 2 to 4% in 1998 and again to 8% in 2004. In parallel, the quota for non-local research postgraduate students increased from 20 to 33% in

1998. Whereas in the past, mainland China was considered poor and all mainland students were given scholarships, economic growth has brought a sharp change and the ability to recruit fee-paying students. In a significant step, HKU in 2002/03 recruited 51 full-fee undergraduates from Beijing, Shanghai, Zhejiang, Jiangsu, Guangdong and Fujian. These were rich provinces and municipalities, in which the Chinese authorities had given the Hong Kong institutions permission to recruit. Seeing the potential, in 2004/05 HKU set a new target of 150 full-fee undergraduates from mainland China. Other institutions had similar initiatives. In 2003/04, 2510 full-time mainland Chinese students were registered in the eight UGC-funded institutions. Among them were 842 undergraduate students, 121 taught postgraduates, and 1547 research postgraduates (University Grants Committee 2005). In 2004 the Chinese authorities gave the eight UGC-funded institutions permission to recruit from Sichuan, Shandong and Hubei Provinces, and Chongqing Municipality; and the following year permission was extended to Liaoning, Hunan, Henan, Guangxi, Hainan, Shanxi Provinces and Tianjin Municipality. This provision gave the institutions permission to recruit fee-paying undergraduates in 17 provinces/municipalities, covering four million students. The Hong Kong government retained a quota restriction on non-local students, but the Macau government made no restriction.

Macau: Economy, Society and Higher Education

Macau has much in common with Hong Kong in the structure of its economy, the dominance of Cantonese-speaking Chinese in its population, and the fact that it was a colony of a European power that reverted to Chinese administration at the end of the 20th century (Bray and Koo 2004). Macau is also a Special Administrative Region which operates under the 'one country, two systems' principle. However, Macau's population and economy are much smaller than those of Hong Kong. Macau's population is approximately 450,000; and the per capita GDP in 2003 was US\$ 17,782 (Macao 2004, p. 552).²

During the main era of colonialism, the Portuguese authorities paid little attention to education. As a result Macau had no publicly funded universities, and Macau's oldest university started as a private venture. It was established in 1981 as the University of East Asia (UEA), and targeted the Hong Kong market more than Macau (Yee and Kou 2001,

p. 78). In 1988, as part of the preparations for the political transition, the government purchased the main campus of the UEA, and in 1991 the institution was renamed the University of Macau (UM).

Alongside UM are 11 other institutions of higher education, of which three are publicly-funded and eight are private. In addition to UM, Macau's publicly-funded bodies include a polytechnic institute, an institute for tourism training, and a police-training school. Among the private bodies, the oldest is the Institute for Software Technology of the United Nations University, which was established in 1991. Other institutions include an open university, a nursing college, an institute of management, and an institute of European studies. Also in the private sector, and important to the present article, is the Macau University of Science and Technology (MUST), which was established in 2000 and in which many administrators, teachers and students are mainland Chinese (Bray and Kwo 2003).

The general body of academic staff in Macau is much less international than in Hong Kong, but includes considerably greater proportions of personnel from mainland China and Taiwan, and also many from Hong Kong. The proportion who hold doctorates is lower than that of Hong Kong, and among the doctorate holders greater proportions earned their degrees from mainland China, Taiwan and Hong Kong rather than Europe, North America and Australasia.

Macau institutions use more mixed media of instruction than their Hong Kong counterparts. Many courses are taught in Cantonese, but some are taught in English. Compared with Hong Kong, a greater proportion of courses are taught in Putonghua, and unlike Hong Kong a few courses are taught in Portuguese. The UM and the polytechnic institute operate some programmes, for example in journalism and international trade, with parallel classes in Cantonese and English. MUST is more strongly dominated by Putonghua since many of its academic staff come from mainland China and Taiwan. Since the resumption of Chinese sovereignty in 1999, the position of Portuguese in Macau has diminished and the positions of Putonghua and English have strengthened.

The Macau government actively encourages both public and private institutions to attract students from mainland China to study in Macau, as a way both to generate income and to broaden the scope of the higher education sector. With approval from Chinese government, in 2001 UM, MUST, the polytechnic institute and the institute for tourism studies were permitted to recruit fee-paying students in 14 provinces and

municipalities in mainland China and, as in Hong Kong, this list was subsequently extended.

In Macau, the institutions which host the largest number of mainland Chinese students are UM and MUST. In UM, for example, the number of first-year places taken by mainland students grew from 122 in 2000 to 265 in 2001 and then to 448 in 2002. In 2001, 129 undergraduate freshmen from mainland China registered in MUST, and the number increased to 220 in 2002. MUST's overall target was for one third of its students to be locals, one third from mainland China, and the remainder from elsewhere (Drago 2003, p. 76). In 2003, a total of 3517 mainland Chinese students enrolled in five tertiary institutions (UM, MUST, Macau Polytechnic Institute, Institute for Tourism Studies, and Kiang Wu Nursing College of Macau), in higher diploma, bachelor's degree, master's degree and doctorate programmes. Another 784 registered in pre-university programmes (Macao 2004, p. 299). Institutions in Macau knew that they were competing not only with each other but also with counterparts in Hong Kong and elsewhere, and therefore stressed their unique identities and orientations. Macau institutions distinguished their niche market in mainland China by targeting mainly at average-level senior high school graduates who were unable to secure places at home but who wanted to gain bachelors degrees. As a result, about 90% of mainland Chinese students in Macau were full-fee-paying undergraduates.

Mainland Chinese students in Hong Kong and Macau universities

To understand more fully the motivations of mainland Chinese students for enrolling in institutions in Hong Kong and Macau, the authors conducted a survey. The data which follow were primarily derived from questionnaires and interviews which focused on students in two institutions in Hong Kong and two in Macau. In each territory the oldest publicly-funded institution was chosen, i.e. HKU and UM. The other two institutions chosen also operated in parallel: HKUST and MUST. However, while HKUST was publicly funded, MUST was private.

The survey was conducted in 2002/03, when 385 questionnaires were distributed. From these questionnaires, 323 were collected with valid data. This formed a response rate of 83.9%, which was considered high. At an institutional level, the surveys covered between 12.2 and 16.0% of the total number of mainland Chinese students (see Table 1). The

Table 1. Sample of respondents, by institution

Institution	HKU	HKUST	UM	MUST	Total
Total enrolment of mainland Chinese students, 2002/03	682	599	713	362	2,356
Number in sample	104	73	88	58	323
Sample as % of total enrolment	15.2%	12.2%	12.3%	16.0%	13.7%

Source: Registrars in the four institutions.

research adopted purposive sampling methods according to the balance of main variables, i.e. gender, subject, degree level and financial source. The characteristics of the sample are presented in Table 2.

The interviews were conducted in 2003/04, and sought in-depth information about students' perceptions and motivations for choosing Hong Kong or Macau higher education. Interviewees were selected to achieve representation by gender, subject, degree level and financial source. Eighteen students were interviewed in Hong Kong, and 10 were interviewed in Macau.

Motivations for study in Hong Kong and Macau

The survey showed that the dominant motivations for mainland students in Hong Kong were different from those in Macau. In Hong Kong, the main motivation was academic, followed by social and cultural, and then economic. In Macau, the main motivation was economic, followed by social and cultural and then academic.

Elaborating, when asked for the three most important anticipated benefits from the degree pursued, in Hong Kong the responses were academic ability (69.0%), social and cultural experience (63.3%), and economic income (51.7%). In Macau, they were economic income (77.2%), competitive ability in the employment market (65.8%), and social and cultural experience (51.0%). The fourth important anticipated benefit also differed: in Hong Kong it was competitive ability in the employment market (45.2%), but in Macau it was academic ability (42.1%). Thus the mainland students in Macau valued economic factors (economic income and competitive ability in the employment market) much more strongly than their counterparts in Hong Kong; and the

Table 2. Characteristics of the sample (%)

Gender	Hong Kong (N = 177)				Macau (N = 146)			
	Male	Female	Male	Female	Male	Female	Male	Female
	58.2	41.8	41.1	58.9				
Degree level	Doctorate	Bachelor	Doctorate	Bachelor	Doctorate	Bachelor	Doctorate	Others
	70.6	13.0	0.7	89.7	7.5	2.1		
Financial source	Fee-paying	Scholarship	Fee-paying	Scholarship				
	2.3	97.7	90.4	9.6				
Family background ^a	Cadre	Business	Cadre	Business	Professional	Worker	Peasant	Peasant
	19.7	0.6	37.9	10.4	25.5	11.7	8.3	8.3
Academic background ^b	National key	District key	National key	Provincial key	Provincial key	District key	Ordinary	Ordinary
	83.0	11.4	14.4	4.0	67.1	9.6	8.9	8.9

^aStudents' family background was measured by father or mother's occupation. Most students identified their family background according to the parent who had the higher status occupation, usually the father.

^bAcademic background was measured by the types of institutions from which students had graduated.

students in Hong Kong valued academic enhancement much more than their counterparts in Macau. Both groups valued the social and cultural benefits of their degrees, with students in Hong Kong ranking that factor second, and their counterparts in Macau ranking it third.

The differences in economic and academic motivations between Hong Kong and Macau may reflect the fact that 85.9% of the respondents in Hong Kong were postgraduate students holding scholarships. By contrast, 89.7% of the respondents in Macau were undergraduate students and were self-financed. There were thus differences in degree level, academic background, age and financing. Even in the public UM, most mainland Chinese students had to pay fees and did not receive scholarships. The Hong Kong government had had a tradition of viewing mainland China as a poor society in need of sponsorship, and was only beginning to revise this view. At the same time, a high proportion of mainland Chinese students were postgraduate students who contributed to the research force of Hong Kong institutions and justified the Hong Kong government's financial support. The Macau government, which had never had such a strong resource base as its Hong Kong counterpart, did not have a strong tradition of sponsorship of mainland Chinese students; and in any case the private MUST saw mainland China as a market to be exploited rather than a society to be supported.

Many parents and students treated higher education as a ladder for maintaining their upper-middle social class or for climbing from lower social status. This pattern was evident both in the groups that focused on academic factors, which were dominant in Hong Kong, and in the groups that focused on economic benefits, which were dominant in Macau. Students saw the qualifications that they would gain as passports to desired occupational and social status, and external higher education mobility was essentially an instrument for social class mobility. This approach has deep roots in Chinese society, which in the feudal era emphasised upward social mobility through the civil service examination system and in the contemporary era has seen a similar role being played by higher education. As one interviewee explained (MUST-Bachelor 1: 2003):

There are three purposes for university education. First, it enhances the quality of individuals; second, it is a ladder for increasing income and thereby social status; and third, it is a mini-society in which to be socialised. Students from peasant and worker families seek mobility through higher education. They work hard to

get into good universities and then to secure good scores. They try to get postgraduate education as well. They want to migrate to large cities, and they feel that their fate depends on their own efforts in education. In contrast, students from business and cadre families know that their parents will help them to find jobs. Their parents have much social and financial capital on which the children can rely. The children's fates are partially in the hands of their parents.

Many other interviewees also indicated that their pursuit of external higher education was motivated by goals not only of higher incomes but also of improved social status. Lower class children wanted to achieve upward mobility through their own efforts in educational attainment, while middle and upper class children sought high social status partially through their own efforts and partially through their parents' capital. Because they had financial resources, middle and upper class students were the main consumers of fee-paying higher education both overseas and in Hong Kong and Macau. Given that the fees and costs of living in Hong Kong and Macau were several times higher than those in mainland China, the fee-paying mainland students in these two territories mainly came from wealthy families in which at least one parent was a professional, businessperson or cadre.

Reasons for choosing Hong Kong and Macau rather than mainland or foreign institutions

Respondents were asked why they chose to come to Hong Kong or Macau rather than staying in mainland China. The top three reasons cited by mainland Chinese students in Hong Kong were that in the mainland higher education quality was not so good (50.0%), it lacked internationalisation (44.9%), and they could not secure scholarships (33.5%). The corresponding reasons for Macau were: lack of internationalisation (44.5%), difficult to improve foreign language (35.6%), and lack of suitable disciplines (29.5%). These findings indicate consistent views on the lack of internationalisation of universities in mainland China. Among the respondents in Macau, 20.3% indicated that they could not gain admission in mainland China; but for Hong Kong this number was only 3.4%. Thus in both settings the majority of enrolments represented differentiated rather than excess demand; but this pattern was especially prominent in Hong Kong. In that territory,

the demand was differentiated not only by discipline but also by institution. As one interviewee explained (HKUST-PhD 1: 2003):

The PhD degree from HKUST is well recognised in the international employment market. It will not be difficult for me to find a position after graduation.

Another interviewee (HKU-PhD 4: 2003) stated that he had chosen HKU rather than the National University of Singapore when he received offers from both, because HKU had been ranked third in Asia in a widely circulated Asian magazine.

When asked why they did not go further afield for their studies, respondents in both groups indicated that it was difficult to apply, to get visas, and to secure places. For the Hong Kong sample, the proportions citing these three reasons were 33.5%, 25.1% and 22.0%. For the Macau sample, they were slightly higher at 50.0%, 28.8% and 20.3%. However, these figures may have reflected perceptions rather than reality: in practice it may be not so difficult to apply, secure visas and gain places in at least some overseas universities. Overseas study does, however, require language competence. Among the Macau respondents, 37.8% felt that their foreign language competence was inadequate for study abroad, though the figure was only 10.3% among the Hong Kong respondents.

The requirement for language proficiency differed in Hong Kong and Macau. In Hong Kong most postgraduate programmes demanded at least 550 on the Test of English as a Foreign Language (TOEFL). Macau institutions had no standard requirements for English proficiency since many programmes used Chinese (Cantonese and/or Putorghua) as the medium of instruction. In the USA and Canada, institutions commonly demanded not only a good TOEFL score but also, for postgraduate programmes, the Graduate Record Examination (GRE) or Graduate Management Admission Test (GMAT). The absence of such obstacles in Macau, and their partial absence in Hong Kong, increased the attractiveness of the territories in comparison with other locations.

Tables 3 and 4 show that the perceived advantages and disadvantages of Hong Kong and Macau institutions compared with foreign institutions were fairly consistent across the two groups. The four common advantages for both Hong Kong and Macau included mix of Eastern and Western cultures, social and cultural identity, geographic proximity, and bridge between mainland China and outside. However in Hong Kong, in contrast to Macau, financial support and scholarships were seen as a very important advantage. The role of the territory as a

Table 3. Perceived advantages of Hong Kong or Macau compared with foreign institutions

	Hong Kong (%) <i>N</i> = 177	Macau (%) <i>N</i> = 146
Geographic proximity	43.0	33.6
Social and cultural identity	39.0	39.7
Merger of eastern and western culture	37.8	66.4
Bridge between China and outside	28.2	37.0
Financial support, scholarship	58.8	17.7
Research/teaching related to China's reality	9.6	17.9
More exchange with mainland	26.0	18.5
No advantage	5.1	6.9
Others	1.7	3.4

Note: The percentage for each item is the sum of the percentages of students who chose this item as ranks one, two and three.

bridge between mainland China and the outside was considered more important in Macau than in Hong Kong. The perceived disadvantages of the Hong Kong and Macau institutions compared with foreign

Table 4. Perceived disadvantages of Hong Kong or Macau compared with foreign institutions

	Hong Kong (%) <i>N</i> = 177	Macau (%) <i>N</i> = 146
Quality of staff	16.4	18.5
Resources and facilities	9.0	14.4
Exchange with international society	14.7	18.5
Value of degree in employment market	35.6	37.7
Position in international academic circle	34.6	34.2
Quality of education	6.2	15.0
Capability of educating international talent	14.0	11.7
Hong Kong/Macau only a city	43.5	32.0
Lack of foreign language climate	41.2	52.8
Can't really understand Western culture	15.2	14.3
Others	2.8	1.0

See note in Table 3.

institutions were lack of foreign language climate, limitation of location in a small territory, lower value of the degree in the employment market, and lower position in the international academic circle.

The dominant three reasons why mainland Chinese students in Hong Kong chose that territory were different from those in Macau (Table 5). In Hong Kong the top three reasons were: scholarship (73.4%), quality and reputation of host institution (55.9%), and convenience to go home (25.4%). However in Macau they were: possible chance to go abroad (60.3%), easy to get admission (50.7%), and value of degree in the employment market (43.2%). Thus many students identified Macau as a stepping stone to destinations outside China, and they were prepared to pay the fees to achieve this. Both territories have potential to develop a 'supply chain' capability to recruit good self-financed mainland students, educate them for a period, and pass them onwards to overseas universities for further study (see also Shive 2004; Postiglione 2005). As explained by one informant (MUST-Bachelor 2: 2003):

My father thinks that to study in Macau is just like to study half way abroad. It can benefit me by widening my horizons. One main purpose to study in Macau is to pave the way for going abroad in the future. Macau is a place for me to better adapt to overseas life later. Macau is just the first step.

This reflected the purchasing power and the aspirations of China's new economic elite, whose children may not have academic brilliance but who have plenty of cash to compensate.

Table 5. Reasons for students' choice of the host institution for higher education

	Hong Kong		Macau	
	<i>N</i> = 177		<i>N</i> = 146	
	%	Rank	%	Rank
Easy to get admission	22.2		50.7	2
Scholarship	73.4	1	17.1	
Convenience to go home	25.4	3	11.0	
Value of degree in the employment market	16.9		43.2	3
Possible chance to go abroad	18.8		60.3	1
Acquaintance here	15.8		2.8	
Good quality and reputation of institution	55.9	2	33.6	
Others	3.4		7.5	

See note in Table 3.

Fewer students saw Hong Kong as a stepping stone, in part because larger proportions were postgraduates who were older. Among the students in the Hong Kong sample, 27.4% were aged above 30, and 32.8% were married. In many cases they had children being looked after by relatives at home; and the research postgraduates in particular had been more attracted to Hong Kong as a destination in itself by the specialisations and individual professors who undertook supervision.

Comparisons with other student flows

The above findings may usefully be compared with the findings of researchers who have examined other cross-border flows of students. Particularly useful is the work of Mazzarol and Soutar (2001), who analysed the motivations of full fee-paying overseas students in Australia. These students were of many nationalities, and as such had different cultural and socio-economic backgrounds, but the data are nevertheless relevant.

Mazzarol and Soutar asked the students about their reasons for choice of Australia as a host for their study, and ranked their responses on a seven-point scale. Table 6 shows the findings, and compares them with the responses of the mainland Chinese students in Hong Kong and Macau. At the top of the scale in Australia were institutional reputations for quality, willingness to recognise previous qualifications, and provision of degrees that were recognised by employers. These factors were also important to the mainland Chinese students in Hong Kong and Macau, with the reputation for quality being even higher than in Australia, and especially high in Hong Kong. The willingness to recognise previous qualifications was important for fee-paying students in Australia and Macau, but not so important to students in Hong Kong, many of whom were scholarship holders. Lower down the scale in Australia, but still important, were factors such as flexible registration throughout the year, advertising, and links to other institutions. These were also important to mainland Chinese students in Hong Kong and Macau, but not so strongly as to overseas students in Australia.

These observations may also be compared with the intentions to study abroad among 241 high-achieving undergraduate students in Tsinghua University. Zheng (2003, p. 225) adopted a five-point scale to test the importance of pull factors, in which 1 represented least important and 5 most important. The mean of 44 factors showed that

Table 6. Reasons for mainland Chinese students' choice of location, and comparisons with overseas students in Australia

	Mean rating of full fee-paying overseas students in Australia	Mean rating of mainland Chinese students in Hong Kong and Macau	Mean rating of mainland Chinese students in Hong Kong	Mean rating of mainland Chinese students in Macau
Sample Number	466	323	177	146
Has a reputation for quality	5.66*	5.83*	5.95*	5.69*
Was willing to recognise my previous qualifications	5.65*	4.56	4.10	5.13*
Offers qualifications that will be recognised by employers	6.10*	5.67*	5.62*	5.73*
Offers scholarship or financial assistance	—	5.41*	5.97*	4.73
Has a reputation for being responsive to student needs	5.33*	5.14*	4.90*	5.42*
Is well known for innovation in research and teaching	5.19*	5.16*	4.80*	5.61*
Offers a broad range of courses and programmes	5.45*	5.37*	4.99*	5.82*
Has rich resources and excellent facilities	5.10*	5.69*	5.71*	5.68*
Offers flexible registration throughout the year	4.94	4.01	3.75	4.32

Advertises and promotes itself strongly	4.68	4.03	3.51	4.69
Was well known to me, or alumni acquaintances referred it to me	4.96	3.74	3.62	3.89
Has links to other institutions known to me	4.42	3.46	3.18	3.80
Has a large number of non-local students	4.45	3.58	3.21	4.03

Note: Views were measured on a scale from 1 (least important) to 7 (most important). * refers to top seven important factors.
Sources: Australian data from Mazzarol and Soutar (2001), p. 68; Hong Kong and Macau data from authors' survey.

the top pull factors (mean > 4.5) were: facility and resources for research, economic and comprehensive power, quality and level of education, level of science and technology, international exchange, international impact, and chances for scholarships. Among these factors, three were the same as for mainland students in Hong Kong, namely facility and resources, quality of education, and scholarships.

The above comparisons show that some core pull factors shaped undergraduate and postgraduate students' choice of host institutions in very different settings. The core determinant factors for choice of host institution were educational factors such as quality, facilities and resources, curriculum and programme, and internationalisation. Economic factors included employability following graduation, and access to scholarships.

Internationalisation of individuals

The literature contains many studies of internationalisation of institutions and broader societies, but fewer studies of internationalisation of individuals. Changes in the outlooks of individuals are of course of great significance, since these are the basic building blocks for wider changes.

The mainland Chinese students in the sample viewed acquisition of qualifications which would be recognised internationally as being of major importance. Such qualifications, they felt, would confer status in themselves, and would give access to further international mobility for study and work. The qualifications were also perceived to be useful even if the students returned to mainland China, because the process of acquiring the qualifications helped the students to understand diverse societies and cultures.

Nevertheless, many respondents indicated that that they planned to go abroad after graduation: 28.4% in Hong Kong, and 44.8% in Macau. In addition, 45.2% in Hong Kong and 39.6% in Macau indicated that their destinations would be decided by circumstances at the time of their choices, and that they would go wherever they could find opportunities for personal development. In Hong Kong, 23.3% of respondents indicated that they would return to mainland China after graduation, while the proportion in Macau was 4.9%. Only 2.8% in Hong Kong and 11.0% in Macau indicated that they would stay in the host territory for work or further study following graduation.

The specifics of these findings reflect the distinctive characteristics of the mainland Chinese students in Hong Kong and Macau compared with their counterparts in mainland China and in foreign countries. As indicated, many of the respondents chose to go to Hong Kong and Macau because they saw the territories as a transit station. They also saw the period of several years as a stage in preparation for lifelong careers or preparation to go abroad. Compared with students who remained in mainland China, they were more international in orientation since Hong Kong and Macau had more international links and exchanges than the mainland, and their curriculum was more international. On the other hand, compared with mainland Chinese students in foreign countries, they were less distant from their homes and had stronger potential to return to mainland China. They travelled back to the mainland more frequently, kept strong links with their home societies, and gained their degrees from Chinese institutions albeit ones in Special Administrative Regions.

Conclusions

Previous research on international student mobility has noted the ways in which push–pull factors shape students' decisions. This paper fits within that framework, but has refined and extended the one-way push–pull model into a two-way push–pull model. It has done this by adding reverse push–pull factors, including pull factors at home and push (repel) factors outside.

Further, this research has analysed factors which could be described as internal to individual students – their characteristics, perceptions and motivations for choice of locations and institutions. Decisions on destinations for higher education are determined by the interaction of students' internal factors and the external forces of two-way push–pull factors. The internal factors include family background, academic characteristics, perceptions, and motivations, which shape the affordability, accessibility and desirability of external higher education. The two-way push–pull model and the interaction of internal and external factors help to explain why some students study in Hong Kong or Macau (or elsewhere) while others remain at home.

Further, in an integrated market of higher education, a change in the pull forces of one location may create a change in the pull forces of another location. For example, if supply of places increases in Hong Kong and prices go down, Hong Kong may become more attractive

than Macau. By corollary, the push (repel) factors of one potential host can increase the pull factors of another potential host. For example, if the USA tightens its visa policy on foreign students, potential applicants may choose other destinations. In the process of dynamic interaction of internal and external factors, any change in one force may lead to multiple changes in patterns of choice.

The flow of mainland Chinese students to Hong Kong and Macau is different from other cross-border flows, chiefly because of features resulting from the forces of history. Mainland China is a huge society which for some decades closed its doors to the outside world but which is now striving to internationalise. The combination of previous underdevelopment, rapid economic growth, and strong expectations of further development has created massive demand for higher education. Some of this demand can be met locally, but other parts of the demand can only be met externally. Some students who go outside mainland China are unable to secure places at home, and thus are part of excess demand. Other students have differentiated demand: they can secure places at home, but go outside to secure qualities not available domestically.

While mainland Chinese students can and do go to many parts of the world, the characteristics of Hong Kong and Macau have distinctive appeal. Despite the problems of colonialism, both territories have emerged from the colonial era with features that are useful to mainland China. In Hong Kong, these features include a strong higher education sector which emphasises English as well as Chinese. In Macau, the legacy of the Portuguese language is less useful, and indeed the Macau institutions of higher education promote internationalisation not through Portuguese but through English. At the same time, Macau institutions place strong emphasis on Chinese. The result has been the development of a pair of hybrid systems which are internationalised but also use Chinese.

As a pair of hybrid systems, Hong Kong and Macau hold both advantages and disadvantages compared with overseas destinations. The main advantages include ethnic identity, merger of Chinese and Western cultures, bridge between China and outside, and the distinctive features of specific higher education institutions. The disadvantages include limited space, limited opportunities for employment, less internationalisation and, in Macau, lower value of qualifications in some subjects and institutions.

Within this context, the market does not operate with complete freedom. The mainland Chinese authorities have only given Hong Kong

and Macau institutions permission to recruit in specified provinces and municipalities, albeit in ones with large populations that are economically advanced; and the governments of Hong Kong and Macau have set guidelines for institutions on proportions of non-local students who can be recruited. Further, the institutions must avoid a perception that qualified local candidates could be excluded because of competition from either better qualified or richer candidates from mainland China; and while flows from mainland China are welcomed in order to broaden the composition of the student body, institutions in both Hong Kong and Macau are keen to recruit students from other parts of the world. Thus, while strong potential for further recruitment of mainland Chinese students is very apparent, the need for balances imposes some limits.

The research has also shown that Hong Kong differs in significant ways from Macau, and that institutions within each territory differ from each other. Hong Kong has a stronger economy and a larger population than Macau, and in this sense has greater absorptive capacity. However, institutions in Macau have been more entrepreneurial. As might be expected, this has been especially the case for the private institutions such as MUST, but it has also applied to the public institutions such as UM. The reasons partly lie in the small population of Macau, which cannot by itself provide an adequate supply of talented students. Also, because higher education in Macau has a shorter history and has not been so strongly funded by the government, its postgraduate sector is less mature than that in Hong Kong. Fewer programmes in Macau can claim to be world class, and Macau caters more for excess demand than for differentiated demand.

The patterns analysed in this paper were the result of changes which occurred in a short period of time, and will certainly to continue to change. As mainland China's higher education sector expands, matures and internationalises, both excess and differentiated demand will diminish. Also, governments and institutions in other parts of the world increasingly view mainland China as a source of students, and since those governments and institutions are likely to increase recruitment efforts, competition will intensify. Further changes will occur within Hong Kong and Macau themselves as the systems of higher education mature and take on new roles, and as the institutions find new ways to develop alongside their neighbours and competitors. Within these changing scenarios, patterns of student flows will also change. This paper has provided a snapshot of a particular scenario within a dynamic

process at a particular period in time. The specific mix of variables presented in this paper may not arise again in the future, but understanding of the forces at work can contribute to broader models of the forces shaping cross-border flows for higher education.

Notes

1. These statistics exclude students who went abroad on non-student visas but who later became students.
2. The publication cited here spelled the name of the territory as Macao rather than Macau. That has long been an alternative spelling, which in 2000 gained official approval for use in English (but not Portuguese).

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