全球人才流动趋势与发展报告2025

GLOBAL TALENT FLOW: TRENDS AND PROSPECTS

2025年6月

AGTO
Alliance of Global Talent Organizations
國際人才組織聯合會

2025 全球人才流动趋势与发展报告2025

（中文版）

2025年6月

AGTO
Alliance of Global Talent Organizations
國際人才組織聯合會

目　录

引言及核心发现

人才作为民族振兴和参与国际竞争的关键资源，在实现中国式现代化进程中发挥核心作用。尽管当前国际形势复杂多变，但全球人才流动趋势并未减弱。人才跨国流动为流入国带来显著发展动能，促使各国积极制定针对性政策措施，以吸引满足自身发展需求的人才资源。

本报告于 2022 年启动，首份报告在第五届虹桥国际经济论坛上发布。报告以推动开放型人才流动格局为导向，致力于构建简明客观的评价体系，系统分析全球人才流动的现状特征与演进趋势，同步开展 38 个主要国家人才竞争力比较研究，这 38 个国家 2024 年的人口和 GDP 之和分别占全世界的 65%和 89%，能够较为全面地反映全球主要经济体及人才流入、流出国的结构特征；探索建立全球人才合作对话机制，促进跨国人才交流与经验共享，旨在形成兼具包容性与实效性的全球人才流动治理解决方案，提供国际化公共产品支撑；推动构建共商共建共享的全球人才治理新秩序，致力于凝聚人才发展与交流的国际共识，提升人才流动领域的公平性、协同性与包容性。

本报告的要点如下：

1. 美国人才竞争力指数仍处于领先地位，世界人才中心正从欧美向亚洲扩散

报告数据显示，在 38 个世界主要国家人才竞争力评价指数中，美国位居首位，其后依次为韩国、瑞典、日本、中国、德国、新加坡、比利时、瑞士等国家。前 10 名中，欧美国家占 6 席，亚洲国家占 4 席，且前 5 名中有 3 个亚洲国家，反映出世界人才中心呈现从欧美向亚洲扩散的趋势。在人才规模指标方面，中国与美国展现显著优势，该指标反映高层次人才资源绝对数量。在人才质量指标方面，韩国、加拿大、瑞典位列前三，由于该指标侧重人均考量，印度、中国、印度尼西亚、巴西等劳动力基数较大的发展中国家，在该项排名中处于阶段性劣势。在人才环境指标方面，美国和中国的优势明显。在人才投入指标方面，美国、以

色列、瑞典排名前三。在人才效能指标方面，新加坡表现突出，韩国紧随其后，智利、南非、印度尼西亚等国在此指标上相对弱势。

2.中国在人才规模与人才环境指标方面优势显著，其余指标具备较大发展潜力

从具体指标得分来看，人才规模指标得分最高，人才环境、人才投入、人才效能、人才质量得分依次递减。在世界主要国家人才竞争力指数总体排名中，中国位列第五，仅次于美国、韩国、瑞典和日本，与自身经济体量的国际地位相比仍存在一定差距。在人才规模指标方面，中国排名首位，展现出突出的竞争优势；在人才环境指标方面，中国位居第二，表明在人才工作平台建设和生活环境优化方面成效显著；在人才效能指标方面，中国位列第 25 位，在人才作用发挥和体制机制改革领域仍有提升空间；在人才投入指标方面，中国排名第 28，虽与前十名存在差距，但在投入总额上呈现增长潜力，与部分发达国家的差距相对较小；在人才质量指标方面，中国处于第 30 位，受高层次人才相对不足和人口就业基数较大的双重影响，加之该指标采用人均计算方式，导致该指标得分较低，呈现阶段性弱势。

3.全球人才区域流动受国际局势与经济发展驱动，呈现规模扩张、流向多元的特征

截至 2025 年 4 月，全球流离失所人口达 1.221 亿，其中包含大量跨国流动的科技型人才；同时，全球贸易总值从 1950 年的 630 亿美元增至 2024 年的 33 万亿美元，进一步拉动人才需求。联合国数据表明，从 2000 年到 2024 年，全球国际移民数量从 1.73 亿增长至 3.04 亿，主要呈现从发展中国家流向发达国家的趋势，美国以 5,240 万国际移民成为最大移民目的地国，印度、中国分别以 1853 万、1170 万人口规模位列前两大移民来源国，从墨西哥到美国是最大的国际移民流动通道，从印度到美国及从中国到美国是最主要的经济移民通道。在移民结构上，工作型移民为主流，集中于高收入国家及新兴市场服务业，高技能技术移民成为各国政策争夺的重点。作为“准国际人才”的国际学生群体也备受各国欢迎，在过去 20 年间国际学生人数增长了两倍。

4.全球数字经济规模增大，数字人才需求迅速上升

随着数字技术的加速创新与深度渗透，全球经济竞争格局和职业生态持续重塑，数字人才需求呈现显著增长态势。世界经济论坛数据显示，2025-2030 年需求增速前 20 的岗位中，多数与数字技能直接相关。全球数字经济规模预计从 2021 年的 38.1 万亿美元增至 2025 年的 53.9 万亿美元，占全球 GDP 比重达 45%。尽管自动化技术可能替代约 30%的职业活动，但同时将创造 1.3 亿个新岗位，凸显新质生产力驱动下就业结构的深刻变革。

5.为推动全球人才有序流动，报告提出多项建议

一是深化对人才流动价值的认知。各国对美好生活的共同追求推动了人才跨国、跨界流动，持续促进移民人才与国际学生等群体流动，有助于增进理解、民心相通与高质量发展。二是以高水平开放推动人才流动。人才的自由全面发展离不开更加开放的全球环境，开放有助于打破流动壁垒、增强互信。三是拓展多层次人才交流对话平台。应构建多层次、制度化的国际人才交流机制，通过全球人才峰会等平台推动政策协同、资源共享与全球共识达成，提升人才流动的公平性、协同性和包容性。四是推进人才流动治理平台多元化与数字化。全球人才流动呈现区域多元化、领域交叉化趋势，治理平台应强调公平性、多元参与、统一规则与数字手段。五是构建数据驱动的全球技能互认与人才流动治理体系。应建立全球技能观测机制、推动微证书与学历认证互认、发展数字化认证体系，为全球人才跨区域、跨领域流动提供制度保障。

第一章 世界主要国家人才竞争力指数

本章按简约、可预测和国际可比的原则，建立主要国家人才竞争力评价指标体系，对相关国家人才竞争力水平进行评价，并分析中国人才竞争力的优劣势。

一、世界主要国家人才竞争力评价指标体系构建

（一）世界主要国家人才竞争力内涵

国家人才竞争力是以国家作为主体单元，评价其在国际社会经济发展的背景下，在人才流动与竞争的环境中，吸引、培育、保留和用好人才的能力。

本评价选择包括中国在内的世界上 38 个国家，其中包含 G20 的 19 个成员国（不含欧盟及非洲联盟整体成员，涵盖全部 G7 国家），以及 19 个其他高收入经济体。除印度、印度尼西亚和南非外，样本国家大多人口超过 1 000 万且人均 GDP 高于 1 万美元；对于人口不足 1 000 万但超过或接近 500 万的经济体，其人均 GDP 通常在 4 万美元以上。38 个国家 2024 年的人口和 GDP 之和分别占全世界的 65%和 89%，能够较为全面地反映全球主要经济体及人才流入、流出国的结构特征。因此，本评价具有代表性。

（二）世界主要国家人才竞争力指标体系

本指标体系数据来源主要包括：世界银行《世界发展指数》（WDI）数据库、世界知识产权组织 WIPO 知识产权统计数据、联合国国际劳工组织（ILO）数据库、《财富》2024 世界 500 强企业榜单、2025 年 QS 世界大学排名 1000 强榜单。部分数据库缺失个别国家的个别数据，缺失数据主要通过该国相应统计部门的数据补齐。

本研究建立的“世界主要国家人才竞争力评价指标体系”涵盖了人才规模、人才质量、人才环境、人才投入和人才效能五个一级指标，包括 14 项二级指标。

人才规模指标是衡量不同国家高层次人才资源绝对数量差距的主要指标，反映不同类型高层次人才资源的绝对数量，体现了人才的规模效应。人才规模指标包括“受过高等教育的适龄劳动力人口数（千人）”“科学研究人员数（人）”2 项二级指标。

人才质量指标是衡量不同国家高层次人才资源相对数量差距的主要指标。人才质量指标，包括“每百万劳动力中受过高等教育的人数（人/百万劳动力）”“每百万就业人员中科学研究人员数（人/百万就业人员）”2 项二级指标。

人才环境指标衡量不同国家人才资源在生活、工作、学习环境方面的优劣，是显示环境差距的主要指标。人才环境指标包括“PM2.5 浓度（微克/立方米）”“人均二氧化碳排放量（吨/人）”“世界企业 500 强（评分）”“世界大学 1000 强（评分）”等 4 项二级指标。

人才投入指标衡量不同国家在人才保障、人才潜能方面的优劣，是显示人才竞争力后劲的主要指标。人才投入指标包括“公共教育经费支出占本国国内生产总值比重（%）”“研究与开发经费支出占本国国内生产总值比重（%）”“医疗卫生支出占本国国内生产总值的比重（%）”3 项二级指标。其中，“公共教育经费支出占本国国内生产总值比重（%）”反映、衡量不同国家为提高国民整体素质、培养潜在人才资源所进行财政性教育经费支出的力度和水平，显示国家在人才资源发展方面的战略高度和政策支撑力度。“研究与开发经费支出占本国国内生产总值比重（%）”反映并衡量不同国家为建设创新型国家、提升人才自主创新能力所进行财政性研发经费支出的力度和水平，显示国家在人才科技创新与发展方面的战略高度和政策支撑力度。“医疗卫生支出占本国国内生产总值的比重（%）”反映国家为提升国民体能素质、为人才队伍提供良好的医疗卫生服务和健康保障的医疗卫生投入。

人才效能指标衡量不同国家在人才使用、人才产出方面的优劣，是显示人才发展成效的主要指标。人才效能指标包括“劳动生产率（美元/就业人员数量）”“劳动力人均有效专利数量（件/劳动力）”“中高技术制造业增加值占制造业增加价值的比重（%）”3 项二级指标。“劳动生产率（美元/就业人员数量）”反映不同国家人才对经济增长的贡献作用；“劳动力人均有效专利数量（件/劳动力）”反

映人才在科技创新方面的成效，衡量不同国家人才科技创新实力和水平；“中高技术制造业增加值占制造业增加价值的比重（%）”反映人才资源的使用状况和作用发挥的程度。三项二级指标直接衡量不同国家使用人才的效果，间接衡量该国人才政策、环境对人才的不同影响。

对由此构建的“世界主要国家人才竞争力评价指标体系”，采用层次分析法（AHP）确定各二级指标的权重，见表 1.1。

表 1.1　世界主要国家人才竞争力评价指标设计

一级指标	一级指标权重	二级指标	代码	二级指标权重	资料来源
人才规模指标	0.160	受过高等教育的适龄劳动力人口数（千人）	GM1	0.071	ILO/WDI
		科学研究人员数（人）	GM2	0.089	WDI
人才质量指标	0.224	每百万劳动力中受过高等教育的人数（人/百万劳动力）	ZL1	0.110	ILO/WDI
		每百万就业人员中科学研究人员数（人/百万就业人员）	ZL2	0.114	WDI
人才环境指标	0.207	PM2.5 浓度（微克/立方米）	HJ1	0.025	WDI
		人均二氧化碳排放量（吨/人）	HJ4	0.035	WDI
		世界企业 500 强（评分）	HJ2	0.075	财富
		世界大学 1000 强（评分）	HJ3	0.072	QS
人才投入指标	0.184	公共教育经费支出占本国国内生产总值比重（%）	TR1	0.062	WDI
		研究与开发经费支出占本国国内生产总值比重（%）	TR2	0.060	WDI
		医疗卫生支出占本国国内生产总值的比重（%）	TR3	0.062	WDI
人才效能指标	0.225	劳动生产率（美元/就业者）	XN1	0.092	WDI
		劳动力人均有效专利数量（件/劳动力）	XN2	0.050	WIPO/WDI
		中高技术制造业增加值占制造业增加价值的比重（%）	XN3	0.083	WDI

注：“WDI”即世界银行《世界发展指数》（WDI）数据库，其大部分数据更新至 2022 年；“WIPO”世界知识产权组织 WIPO 知识产权统计数据，WIPO 数据更新至 2023 年；“LIO”即联合国国际劳工组织（ILO）数据库，其中大部分数据更新至 2024 年；“财富”即《财富》2024 年世界 500 强企业完整榜单；“QS”即 2025 年 QS 世界大学排名 1000 强榜单。

二、世界主要国家人才竞争力评价

通过对相关数据的系统测算，得到 2025 年 38 个国家在人才竞争力总体水平的国际定位和排序，以及人才规模、人才质量、人才环境、人才投入和人才效能五个一级指标的国际比较结果。

在人才竞争力总体水平方面，在人才竞争力总体水平方面，美国处于领先地位，韩国位列第二，瑞典、日本、中国依次排在第三、第四和第五位，德国、新加坡、比利时、瑞士分列第六至第九位。在前 10 名国家中，欧美国家有 6 个，亚洲国家有 4 个，且亚洲国家在排名前五的国家中占据 3 席。

排名第 10 至 19 位的国家依次为丹麦、以色列、法国、英国、芬兰、加拿大、荷兰、爱尔兰、奥地利和挪威；第 20 至 29 位为澳大利亚、西班牙、新西兰、葡萄牙、捷克、意大利、希腊、波兰、俄罗斯和巴西；第 30 至 38 位则是土耳其、沙特阿拉伯、马来西亚、智利、印度、阿根廷、墨西哥、南非和印度尼西亚。值得注意的是，排名第 3 至 20 位的国家竞争力指数差距相对较小，而美国的人才竞争力指数为排名末位的印度尼西亚的 7.4 倍，具体情况可参见图 1.1。

与 2022 年的排名数据对比发现，部分国家排名出现显著变化，这种波动现象在欧洲地区较为明显。从影响因素来看，美国近年来推行“美国优先”政策，一定程度上限制学术自由，致使部分顶尖科研人员流向欧洲。在北欧及西欧，瑞典、德国、比利时等国家通过加大科研投入、推进绿色产业转型，提升了人才竞争力排名；丹麦因防务预算大幅增加、碳税改革取消以及教育改革引发争议等因素，排名有所下降；英国受“脱欧”后续影响，在科研领域与欧盟合作减少，人才竞争力排名下滑。在中东欧地区，捷克和土耳其通过持续增加科研支出、逐步提高公共教育经费占比，提升了教育与科研领域的整体水平，土耳其新建多所高校的举措，也增强了其人才吸引力。而俄罗斯因外部冲突影响，国际合作渠道受限，人才外流情况加剧，人才竞争力排名有所下降。

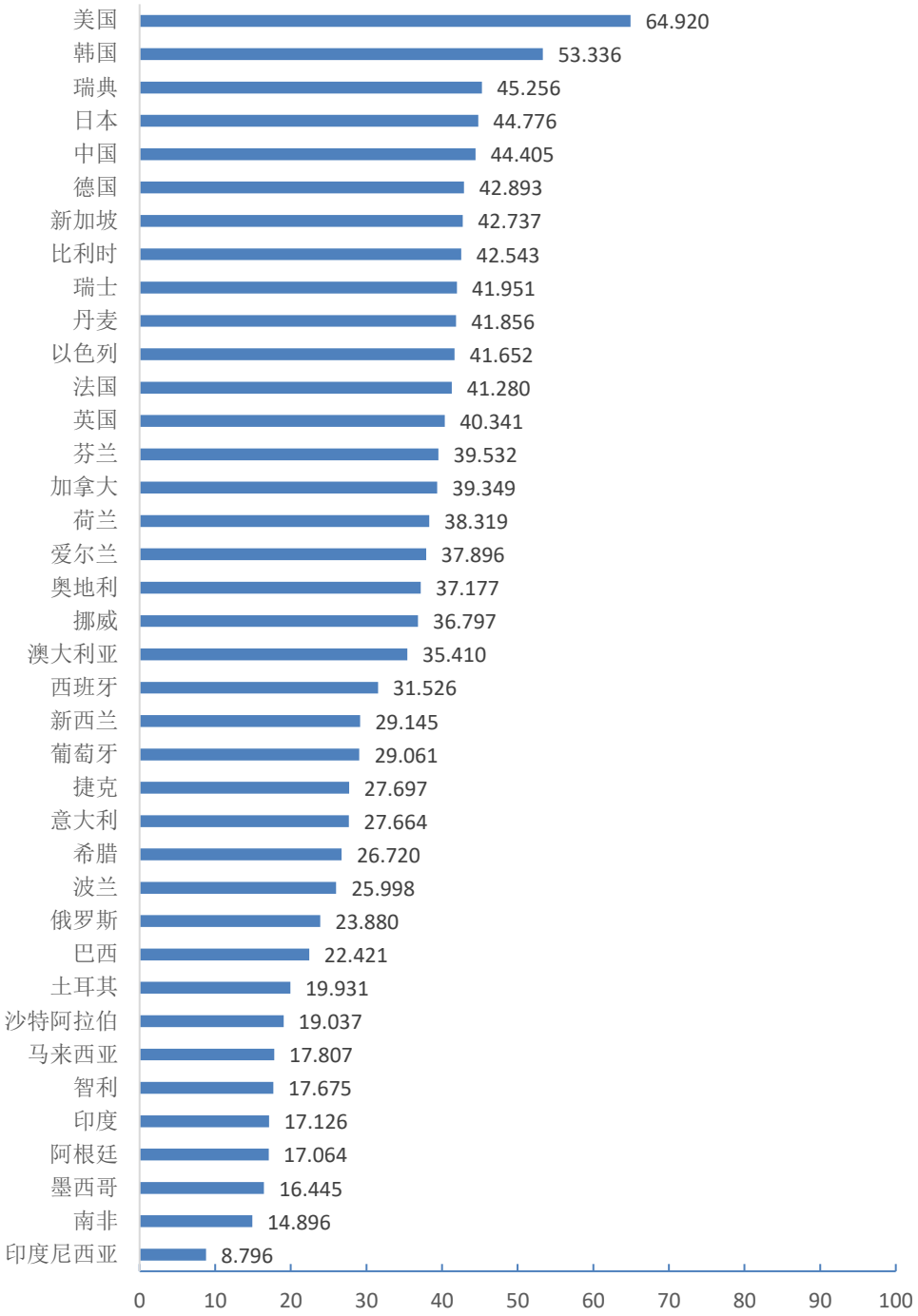

图 1.1　38 国人才竞争力指数（总体水平）的国际排序（折合百分制）（分）

在人才规模方面，中国和美国具有明显的竞争优势。在“受过高等教育的适龄劳动力人口数”和“科学研究人员数”两个指标方面，中国的指标数值高于印度、日本、韩国等位列第三至第五位的国家，在人才规模的量化表现上具有明显优势，见图 1.2。

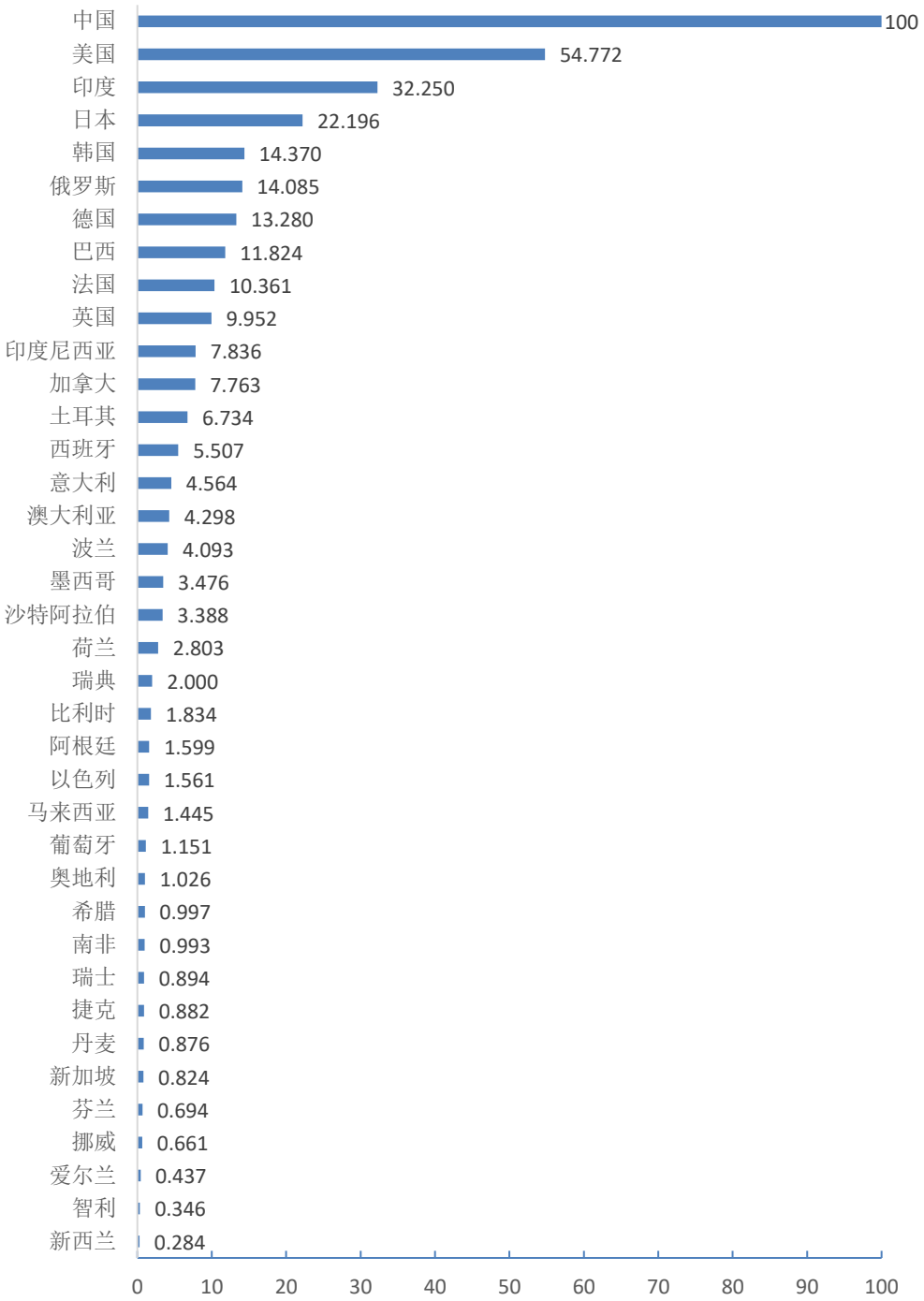

图 1.2　38 国人才规模指数的国际排序（折合百分制）（分）

在人才质量指数方面，韩国、加拿大、瑞典位居前三。从“每百万劳动力中受过高等教育的人数”和“每百万就业人员中科学研究人员数”两项指标来看，韩国排名首位，加拿大紧随其后，瑞典、丹麦、新加坡、挪威、比利时、芬兰 6 国表现突出。由于该指标侧重人均维度的考察，印度、中国、印度尼西亚、南非等发展中国家受劳动力市场和就业人口基数较大的影响，在人才质量指标上呈现

阶段性弱势，见图 1.3。

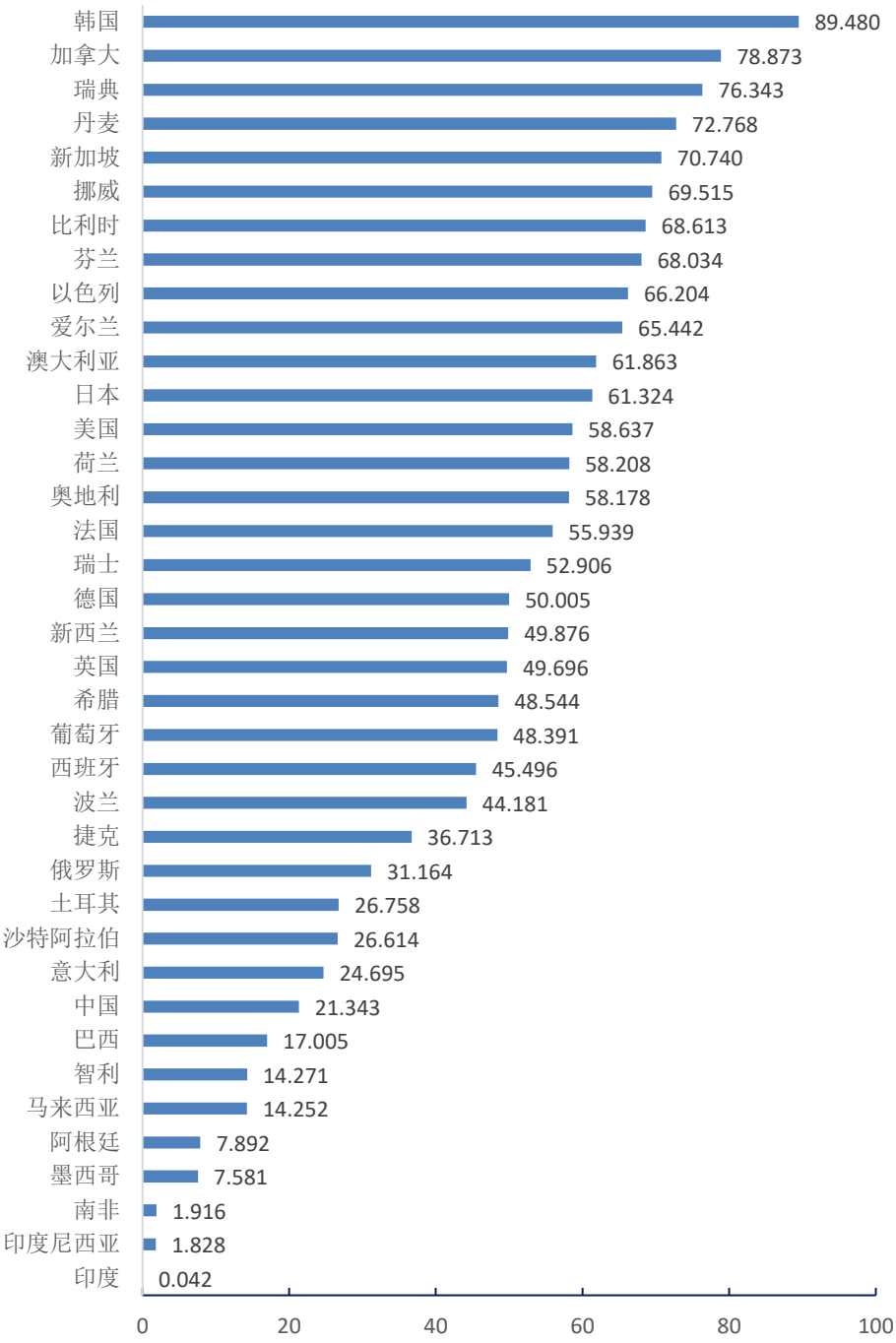

图 1.3　38 国人才质量指数的国际排序（折合百分制）（分）

在人才环境指数方面，美国与中国展现出显著优势。在“PM2.5 浓度（微克/立方米）”“人均二氧化碳排放量（吨/人）”“世界企业 500 强（评分）”“世界大学 1000 强（评分）”四项指标中，美国位居首位，中国紧随其后。英国、法国、德国、日本、西班牙、意大利、瑞士依次位列第三至第九位；巴西、瑞典、荷兰、

葡萄牙、澳大利亚、墨西哥、印度尼西亚、芬兰、丹麦、加拿大排列第十至第十九位；爱尔兰、新西兰、阿根廷、比利时、奥地利、马来西亚、韩国、希腊、挪威位居第二十至第二十九位；土耳其、智利、以色列、南非、捷克、波兰、新加坡、俄罗斯、沙特阿拉伯位列第三十至第三十八位，见图 1.4。

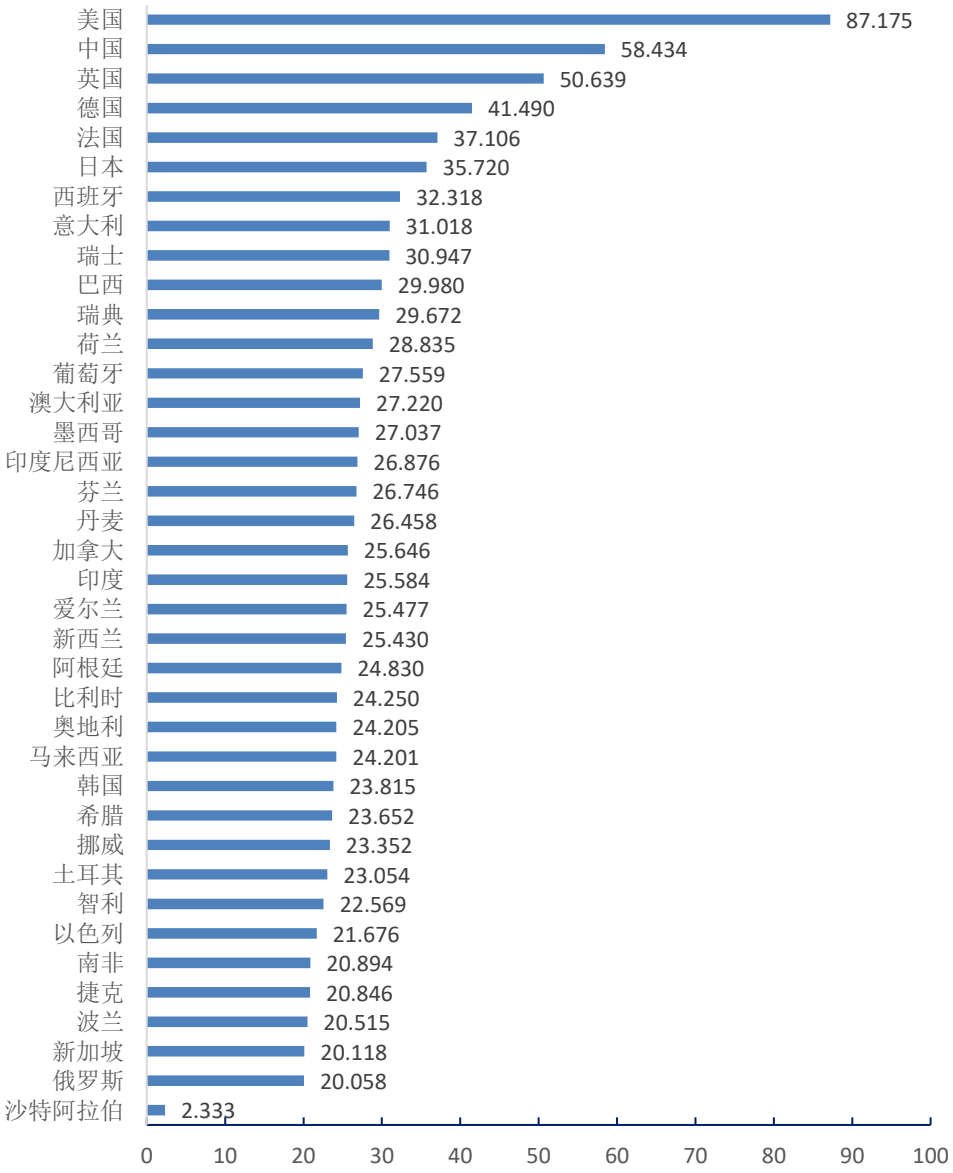

图 1.4　38 国人才环境指数的国际排序（折合百分制）（分）

在人才投入指标方面，“公共教育经费支出占本国国内生产总值比重”“研究与开发经费支出占本国国内生产总值比重”“医疗支出占本国国内生产总值比重”三项指标衡量教育、研发、医疗领域投入强度，美国和以色列的投入比重较高，在该指标上得分领先；瑞典、比利时、韩国、瑞士、德国、芬兰、奥地利等国紧

随其后；法国、英国、丹麦、日本、荷兰、澳大利亚、新西兰、葡萄牙、加拿大、南非等国位列第十至十九位；第二十至二十九位依次为巴西、捷克、智利、西班牙、阿根廷、希腊、意大利、挪威、中国、沙特阿拉伯。数据显示，中国在投入比重指标上与前十位国家存在一定差距，但在投入总额层面展现出增长潜力，与部分发达国家的差距相对较小，见图 1.5。

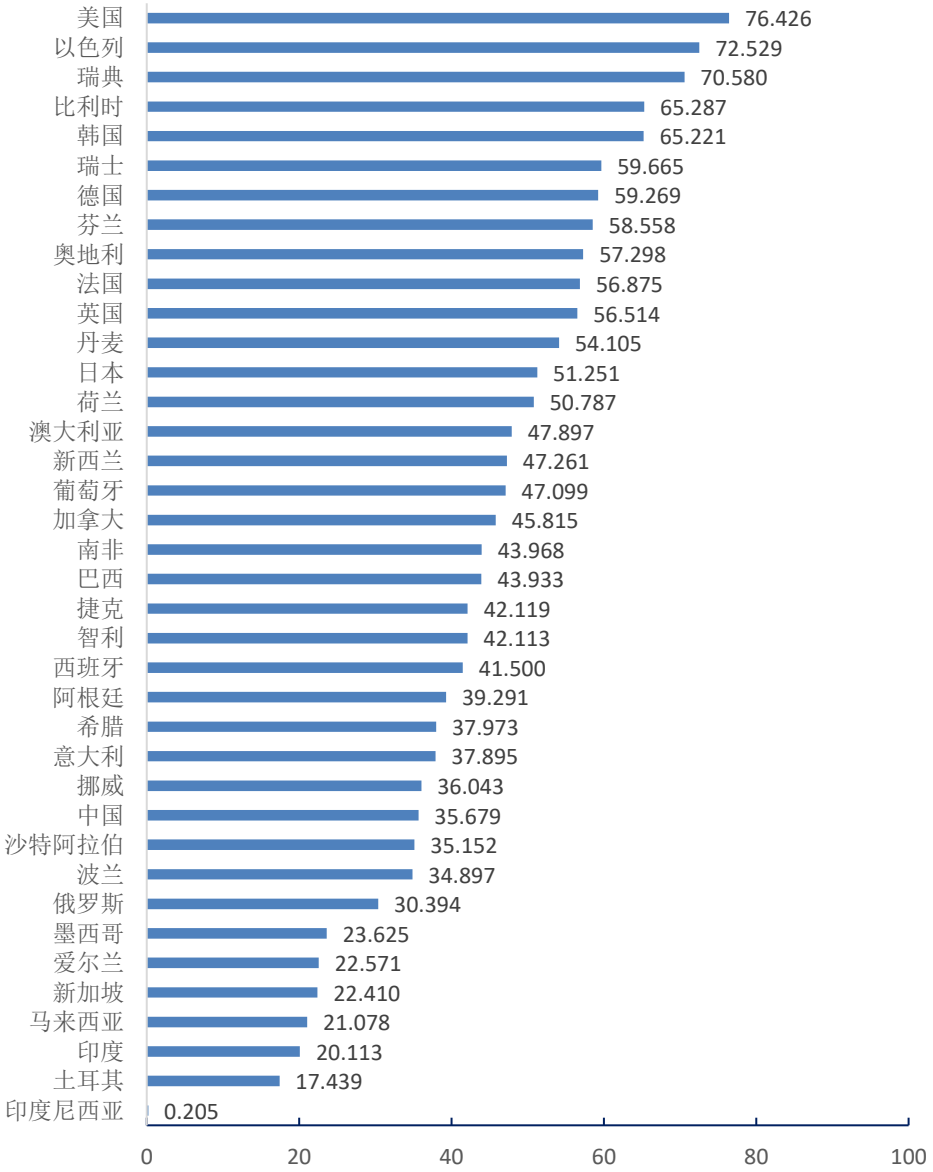

图 1.5　38 国人才投入指数的国际排序（折合百分制）（分）

在人才效能方面，在“劳动生产率”“劳动力人均有效专利数”“中高技术制造业增加值占制造业增加价值的比重”三项指标中，新加坡表现突出，韩国紧随其后，爱尔兰、瑞士、美国展现出较强实力，日本、德国、丹麦的表现也较为优

异。而智利、南非、印度尼西亚三国在该维度的指标表现相对较弱，见图 1.6。

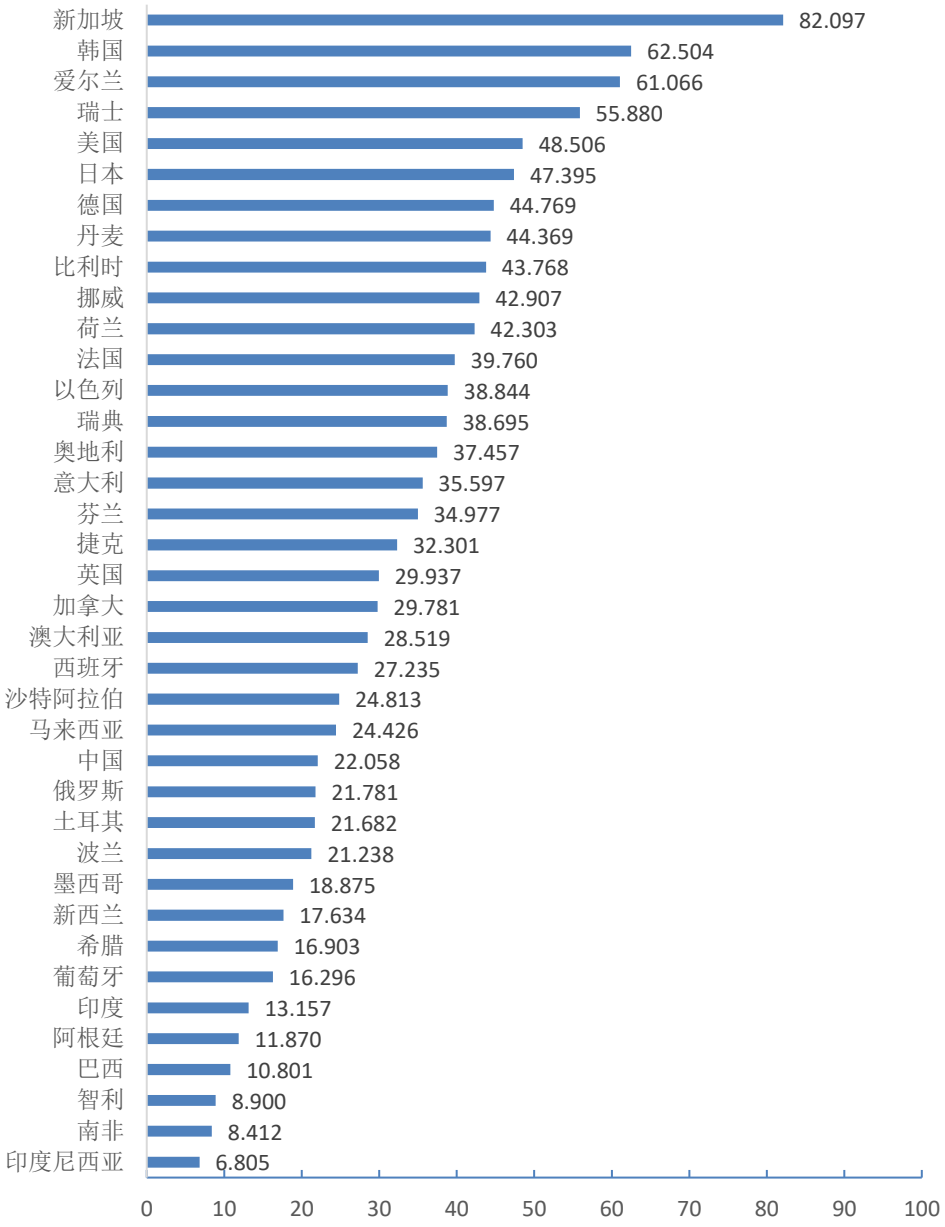

图 1.6　38 国人才效能指数的国际排序（折合百分制）（分）

三、中国人才竞争力分析

从各个指标得分来看，中国人才规模指标表现最佳，获得满分；人才环境指标折合百分制得分为 58.434 分；人才投入、人才效能、人才质量指标得分依次为 35.679 分、22.058 分和 21.343 分。

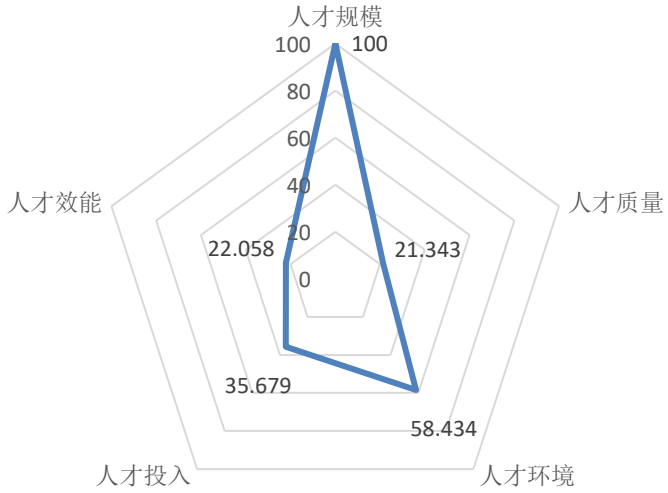

图 1.7 中国人才竞争力指数各指数分值（折合为百分制）（分）

从人才竞争力总体水平来看，中国位列第五，处于美国、韩国、瑞典、日本之后。与中国的经济体量国际地位相比，人才竞争力排名存在一定差距，但整体呈现上升趋势。中国人才竞争力的提升主要得益于近年来国家实施的一系列更加积极、更开放、更高效的人才政策，在优化国内人才培养与调配体系的同时，也增强了对海外优秀人才的吸引力。例如，2021 年颁布的《中华人民共和国国民经济和社会发展第十四个五年规划和 2035 年远景目标纲要》明确提出“探索建立技术移民制度”。2024 年，党的二十届三中全会提出，“完善海外引进人才支持保障机制，形成具有国际竞争力的人才制度体系，探索建立高技术人才移民制度”。随着国内人才政策不断完善，出入境便利化改革向纵深发展，人才引进与回流不断加速。据教育部数据，1978—2019 年，423.17 万人在完成学业后选择回国发展，占已完成学业群体的 86.28%；2019 年，当年中国留学回国人员达 58.03 万人。2020 年，当年留学回国发展人数首次超过当年出国留学人数，2021 年，留学回国人员总量更是突破百万大关。2023 年海外人才回流速度有所放缓，但保持了整体增长趋势。2024 年，美国斯坦福大学中国经济研究中心发布的一篇报告揭示了华裔科学家的流动趋势。报告称，自 2018 年后，离开美国的华裔科学家增加了 75%，其中 2/3 前往中国；从美国向外迁移的华裔科学家数量从 2010

年的 900 人增加到 2021 年的 2621 人，其中大部分选择回到中国工作。[①]

在人才规模指标方面，中国与美国展现出显著竞争优势。数据显示，中国在该指标上的表现远优于美国。

在人才质量指标方面，中国排名第 30 位，该指标表现存在阶段性压力。从指标构成来看，“每百万劳动力中受过高等教育的人数”和“每百万就业人员中科学研究人员数”两项指标均采用人均统计口径，受中国劳动力及就业人口基数较大影响，人才质量指数相对偏低。值得注意的是，中国在“每百万劳动力中受过高等教育的人数”这一二级指标上呈现显著增长趋势，体现出追赶态势。这一进步得益于国家对高等教育和人才培养的重视和持续投入，例如 2025 年发布的《教育强国建设规划纲要（2024－2035 年）》中明确提出“健全教育战略性投入机制”等举措，多次提及加强教育及人才培养投入。[②]

在人才环境指标方面，中国位列第二，这一表现反映出中国在优化人才工作与生活环境方面的持续努力，尤其在搭建人才发展平台、改善生态环境质量等领域取得显著进展。早在 2013 年 10 月，习近平主席在欧美同学会成立 100 周年庆祝大会上强调：“环境好，则人才聚、事业兴；环境不好，则人才散、事业衰。要健全工作机制，增强服务意识，加强教育引导，搭建创新平台，善于发现人才、团结人才、使用人才，为留学人员回国工作、为国服务创造良好环境。”近十年来，从国家战略到地方实践，中国对人才发展环境的重视已形成系统性推进格局。

在人才投入指标方面，中国位列第 28 位。数据显示，中国与美国、瑞典等国家在投入比重指标上存在一定差距，但与部分发达国家的差距相对较小。从投入总额来看，中国展现出增长潜力。2021 年 9 月召开的中央人才工作会议强调，要加大人才发展投入并提高投入效益，为进一步释放发展潜力奠定了政策基础。

在人才效能指标方面，中国位列第 25 位。数据显示，中国在人才效能指数方面约为新加坡的四分之一，在人才作用充分发挥及体制机制改革方面仍存在提升空间。同时，中国在该指标上也取得了阶段性进展。党的二十大后，习近平总

① 王辉耀,苗绿,郑金连.完善海外引进人才支持保障机制，赋能新质生产力发展[J].智库理论与实践,2024,9(05):24-30.

② 中华人民共和国中央人民政府， 中共中央 国务院印发《教育强国建设规划纲要（2024-2035 年）》.(2025-01-19). https://www.gov.cn/zhengce/202501/content_6999914.htm.

书记指出，发展新质生产力是推动中国高质量发展的内在要求和重要着力点，是生产力迭代升级与现代化发展的必然选择，并强调需以发展新质生产力为导向，畅通教育、科技、人才的良性循环，完善人才培养、引进、使用和合理流动的工作机制。①

① 新华社.习近平在中共中央政治局第十一次集体学习时强调：加快发展新质生产力 扎实推进高质量发展.[EB/OL]. (2024-02-01)[2024-05-12]. https://www.gov.cn/yaowen/liebiao/202402/content_6929446.htm.）。

第二章 全球人才流动现状与趋势

一、全球人才流动相关概念

（一）人才

中国《国家中长期人才发展规划纲要（2010-2020 年）》将“人才”定义为“具有一定的专业知识或专门技能，进行创造性劳动并对社会做出贡献，为社会创造价值的人，是人力资源中素质较高的劳动者。”在中国《现代汉语词典》中，“人才”意为“德才兼备的人；有某种特长的人”。

其他国家中与“人才”比较相近的概念是“人力资本”和“人力资源”。19 世纪，部分学者把人力资本归为国家竞争力的重要组成部分。德国经济学家弗里德里希·李斯特（Freidrich Liszt），在国家生产力三个层次的精神力量层次阐释中强调了激励机制和智力开发，也即“人才资本”的重要性。1954 年，彼得·德鲁克（Peter F. Drucker）其《管理实践》中首次提出“人力资源”概念，并认为企业真正的资源只有人力资源，企业走下坡路的第一个信号是对那些合格的、能干的、有志向的人才失去吸引力。[①]

本报告把“人才”界定为：有一定的知识和才干，能对社会做出贡献的人。

（二）人才流动

“人才流动”，既可指人才在空间位置上的迁移，又可指人才在产业间、职业间的流动。[②]本报告“人才流动”聚焦于人才在国家间、区域间或全球范围内的流动，在人才流动趋势部分也涉及产业、职业之间的流动。促成人才流动的原因有很多，知识经济、全球化发展、人口结构差异与各国人才政策是其中最为重要的因素。本报告所指人才在空间位置上的流动主要分为人才流出（流入）、人

① 王辉耀. 国际人才竞争战略[M]. 北京: 党建读物出版社, 2014:5.
② 王辉耀，苗绿，郑金连. 国际人才学概论[M].北京：中国人事出版社, 2020：24.

才回流、人才环流三种模式。

人才流出，是从人才输出国角度定义的流动模式，即人才从一国迁徙至另一国。对于人才输入国来说，就是一种“人才流入”现象。不管是“人才流出”，还是“人才流入”，都是一种单向的人才流动。

人才从 A 国流入 B 国再流回 A 国的过程，即为“人才回流”。在人才回流中，由 A 国流出的人才在 B 国学习或工作后，可能掌握了先进的技术知识或管理技能，当其回流到 A 国时，A 国就可以通过人才回流分享国际前沿的技术知识、人文思想和管理技能等。

人才环流即人才在流出国、流入国、第三国之间“循环”流动。在人才环流的过程中，人才在 A、B、C 之间循环往返，使得三者不再是单纯的流出国与流入国的关系，而是互为流出国又互为流入国。从空间来看，人才环流跨越至少两个国家；从流动次数来看，人才环流不是单向或单一循环的人才流动，而是多次循环往返的流动；从流动效用来看，人才环流不是单一的非受益即损失的模式，而是成为了双方都能受益的共赢模式。[①]人才环流推动了资源、资本、技术的互通有无、互惠互利，从而促进彼此经济社会的发展。

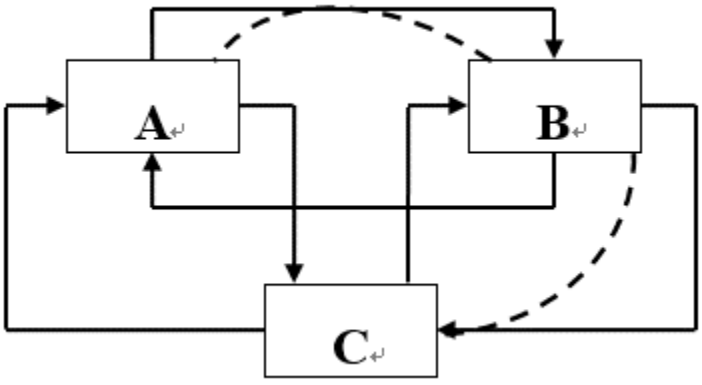

图 2.1　人才环流

资料来源：汪怿.构建全球人才枢纽:原因、内涵与策略[J].科学发展,2013(02):89-99.

① 杜红亮, 乌云其其格. 让中国成为全球人才环流的重要一极 [EB/OL].（2012-04-27）[2022-10-07] http://www.kjw.cc/2012/04/27/29930.html.

二、全球人才跨区域流动现状

各国对“人才”的界定有所不同，目前对全球范围内的人才流动现状尚无公认的监测标准。本报告通过追踪国际移民[①]（尤其是工作型国际移民和国际学生）2000~2024 年的流动趋势，对全球人才跨区域流动现状进行初步分析。

（一）全球国际国际化人才及移民流动现状

1. 人才国际流动的影响因素

在复杂国际形势背景下，全球局势的不确定性推动了人才跨国流动的发展。截至 2025 年 4 月，全球被迫流离失所人口数量达 1.221 亿[②]，其中包含大量科技型人才向其他国家流动的现象。与此同时，全球经济发展对人才的需求持续增长。经济全球化在地缘冲突中持续展现韧性，全球贸易总值从 1950 年的 630 亿美元增至 2024 年的 33 万亿美元[③]，超 500 倍增长印证了合作发展的主流趋势。

在此背景下，人才作为核心创新要素的战略价值显著提升，在推动经济复苏、创新发展及应对未来挑战中发挥关键作用。新加坡在 20 世纪 90 年代的经济奇迹中，外来移民贡献了 40%的 GDP 增长；德国 2021 年引进 53.2 万长期移民，马克斯•普朗克学会科研岗位外籍学者占比达 52%；美国移民创立了 43%的 500 强企业，2023 年美国发放了 117 万张绿卡彰显其人才吸引力。[④]

---

① 联合国经济社会事务统计局 1998 年正式公布的《国际移民数据统计建议》，将“国际移民”定义为任何一位改变了常住国的人（不含因娱乐、度假、商务、医疗或宗教等原因而短期出国者）。并将“国际移民”分为“短期移民”和“长期移民”。“短期移民”系迁移到其原籍国以外的另一个国家至少 3 个月以上，一年（12 个月）以下；“长期移民”系迁移到其原籍国以外的另一个国家至少一年（12 个月）以上，迁移的目的国成为其事实上的新的常住国。就迁出国而言，“长期移民”是“长期外迁的国际移民”；就移入国而言，“长期移民”是“长期迁入的国际移民”。“国际移民组织”（International Organization for Migration，IOM）将“国际移民”界定为离开本人之原籍国或此前的常住国，跨越国家边界，为了定居性目的而永久性地或在一定时期内生活于另一国家的人。同时，也特别强调了“国际移民”与“社会发展”的关系，“当探讨移民与发展时，所指‘移民’是不受任何外力因素胁迫、由个人自主做出移民选择的人，不包括难民、流亡者或被迫离开家园的人。”本报告中联合国经济社会事务统计局和国际移民组织对国际移民的界定和数据基本一致。根据跨国迁徙的形式和目的不同，国际移民可分为工作型国际移民、投资型国际移民、团聚型国际移民、学习型国际移民、危机移民、非法移民等类别，本报告的国际移民主要涉及工作型国际移民和学习型国际移民（即国际学生）。

② UNHCR 中国. 战争致流离失所人数创十年新高. [EB/OL]. (2025-06-12)[2025-06-20]. https://www.unhcr.org/cn/19599-%e6%88%98%e4%ba%89%e8%87%b4%e6%b5%81%e7%a6%bb%e5%a4%b1%e6%89%80%e4%ba%ba%e6%95%b0%e5%88%9b%e5%8d%81%e5%b9%b4%e6%96%b0%e9%ab%98.html.

③ 贸发会议：2024 年全球贸易额达 33 万亿美元新高. https://tradeinservices.mofcom.gov.cn/article/news/gjxw/202503/173871.html.

④ 王辉耀,苗绿,郑金连.完善海外引进人才支持保障机制，赋能新质生产力发展[J].智库理论与实践,2024,9(05):24-30.

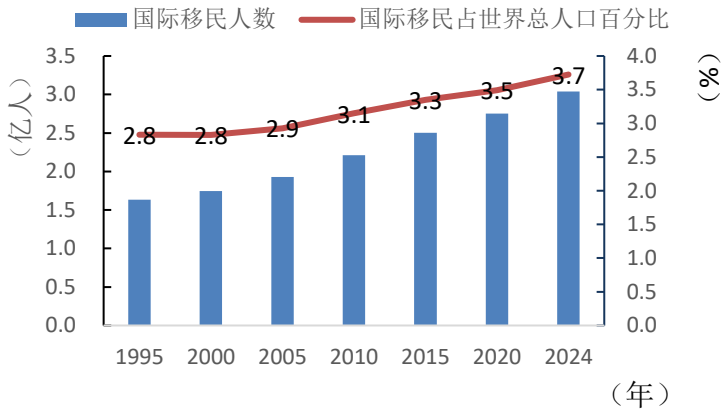

图 2.2　1995-2024 年国际移民人数和百分比

资料来源：UNDESA: International migrant stock 2024. Accessed June 5, 2024.

2. 全球国际移民流动分布特征与趋势

从总量看，国际移民数量持续增长，主要从印度、墨西哥等发展中国家向美国、德国等发达国家流动。2024 年，全球有近 3.04 亿国际移民。美国以 5,240 万移民居首，主要来源国为墨西哥（1,085 万）、印度（272 万）和中国（218 万）；德国接纳 1,680 万移民，沙特阿拉伯接纳 1,370 万移民，分别位列第二和第三。印度以 1,853 万移民输出量居首，中国（1,170 万）、墨西哥（1,160 万）紧随其后。[①]

从结构看，工作移民占国际流动主体，区域分布与性别差异显著，高技术移民受到普遍欢迎。一是工作移民主要流向富裕国家。2019 年全球 1.69 亿工作移民占总量的 62%，[②]北欧/西欧（4,100 万）、北美（3,700 万）、阿拉伯国家（2,400 万）三大区域占比国际工作移民总数的 60%。二是社会文化对性别差异影响巨大。阿拉伯国家工作移民占其劳动力市场的 41.4%，性别失衡明显（男 1,990 万 vs 女 420 万）。相似的，性别比例失衡的地区还有南亚，男性工作移民达 570 万而女性工作移民只有 140 万，反映了传统性别角色、工作市场的需求结构，以及社会文化等因素的共同作用。三是高技能人才成为各国移民政策倾斜焦点。尽管全球 66.2%移民从事基础服务业，但高技能竞争白热化。美国职业类移民签证（Employment-Based Preference）用于吸引高技能工作移民，发放量从 2019 年

① UNDESA: International migrant stock 2024.Accessed June 5, 2024.
② ILO. ILO Global Estimates on International Migrant Workers Results and Methodology, 2021.

28,538 张增至疫情后的 46,508 张，[①]欧盟蓝卡（针对欧盟以外地区高技术人员发放的合法工作和居留卡片）2022 年发放 8.2 万张（德国占 77%）。印度公民获欧盟蓝卡 2 万张（24%），俄罗斯（8,000 张）和土耳其（5,000 张）分列二三位。

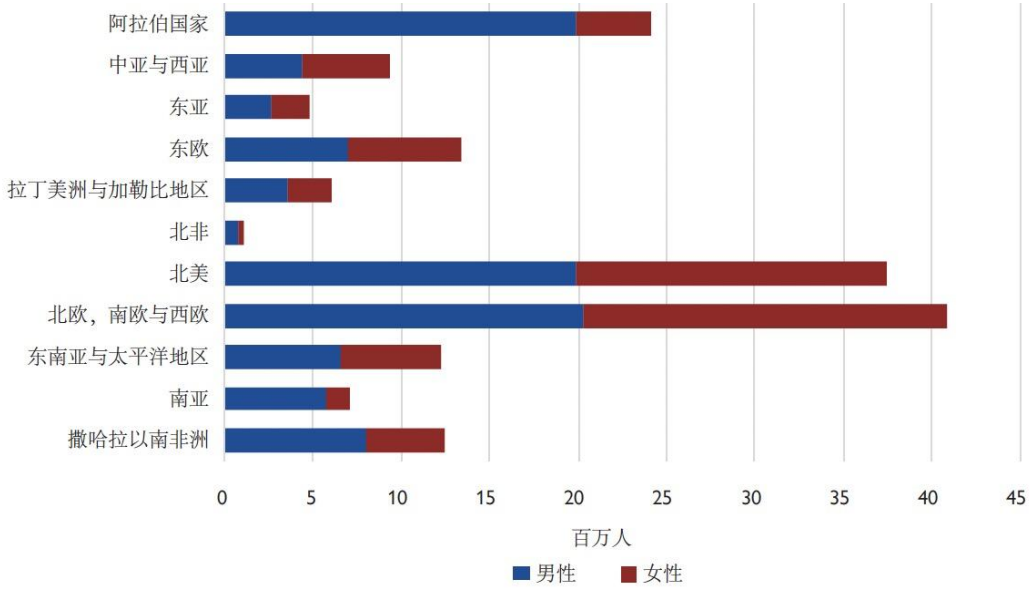

图 2.3 按性别分列的工作移民地理分布情况

资料来源：IOM. World Migration Report 2024.

（二）全球国际学生流动分布特征与趋势[②]

1. 国际学生规模持续扩张，但 2020 年以来增速有所放慢。

全球高等教育国际学生数量从 2000 年的 211 万人增至 2022 年的 686 万人，增长幅度超过两倍。2019 年之后受全球疫情、经济调整等因素影响，国际学生总量尽管总体保持增长态势，但增速明显下降。2020-2022 年国际学生平均增速为 4.1%，明显低于 2019 年的 6.7%，也低于全球高等教育学生整体增速水平。

①https://travel.state.gov/content/dam/visas/Statistics/AnnualReports/FY2023AnnualReport/FY2023_AR_TableI.pdf.

② 本部分内容主要来自：欧美同学会（中国留学人员联谊会），全球化智库（CCG）. 中国留学发展报告（2024~2025）. 北京: 社会科学文献出版社.
教育部留学服务中心.中国出国留学蓝皮书 2025. 北京:中国言实出版社.

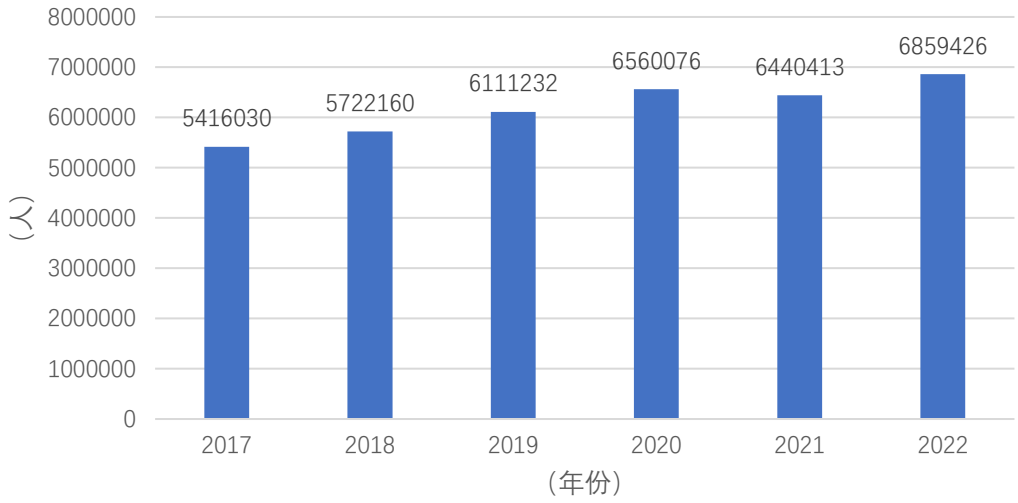

图 2.4　2017—2022 年全球国际学生人数

资料来源：UNESCO. Number and rates of international mobile students[EB/OL]. [2025-02-15]. http://data.uis.unesco.org/#.

2. 国际学生主要从中国、印度等发展中国家流向美国、英国等教育大国

国际学生主要来自中等收入国家或地区。来自中等收入国家或地区的国际学生自 2018 年至 2022 年一直占国际学生总数的 60%以上，并呈现缓慢上升趋势。其中，中国和印度是全球最大国际学生第一和第二大来源国，2022 年分别有 105.2 万和 62.2 万学生在海外高等教育机构留学，占全球国际学生总数的 15.3%和 9.1%。

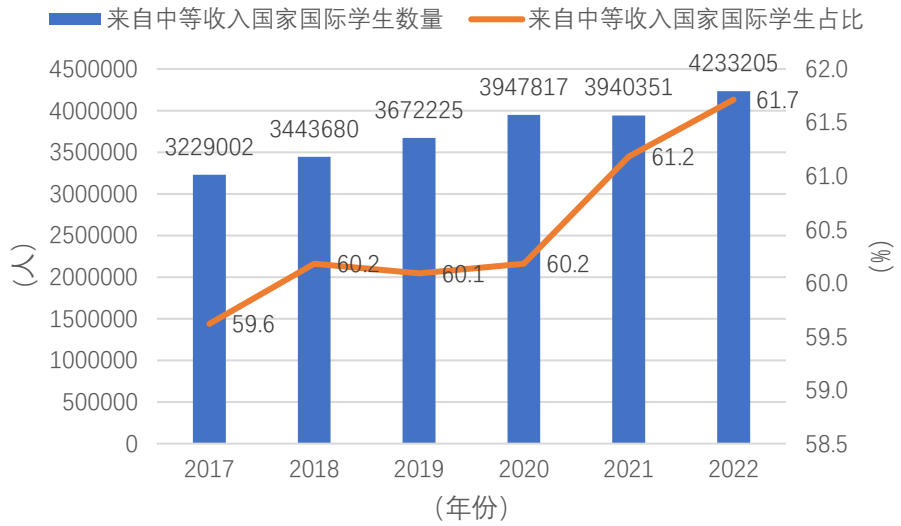

图 2.5　2017—2022 年来自中等收入国家或地区国际学生数量及占比

资料来源：UNESCO. Number and rates of international mobile students[EB/OL]. [2025-02-15]. http://data.uis.unesco.org/#.

国际学生的留学目的地主要在高收入国家或地区。2017 年以来，在高收入国家或地区留学的国际学生一直占国际学生总数的 75%以上，但占比呈现逐步下降趋势，从 2018 年的 79.1%下降至 2022 年的 75.8%。其中，美国和英国是国际学生排在前二位的目的地国，2022 年分别有 94.9 万和 67.5 万国际学生学，占全球国际学生总数的 13.8%和 9.8%。

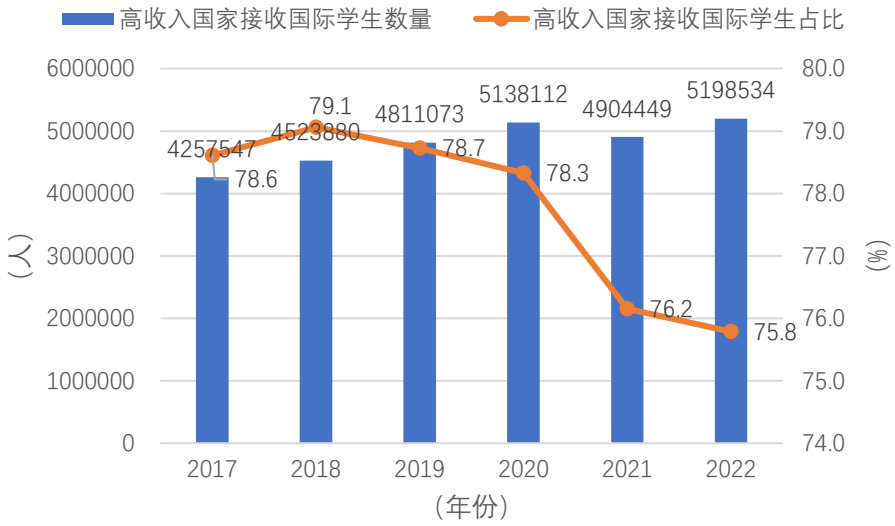

图 2.6　2017—2022 年高收入国家或地区接收国际学生数量及占比

资料来源：UNESCO. Number and rates of international mobile students[EB/OL]. [2025-02-15]. http://data.uis.unesco.org/#.

3. 国际学生比较偏重 STEM 专业，而且研究生阶段的人数占比较大。

从专业选择看，在 OECD 国家，国际学生与本国学生在选择专业领域时表现出了明显的差异，平均而言，30%以上的国际学生倾向于选择 STEM 专业，而 OECD 国家的本国学生中平均只有 19%选择 STEM 专业。从国际学生就读的学历层次来看，在经济合作及发展组织（OECD）国家中，研究生阶段的国际学生占比均显著高于本科阶段。2022 年，OECD 国家中，就读于本科阶段的国际学生占该阶段学生总数的 5%，硕士研究生阶段的国际学生占比为 15%，而博士研究生阶段的国际学生占比达到 25%。

三、全球人才跨领域流动持续加速

数字技术的深度应用与创新发展在重塑全球经济竞争格局的同时，显著提升了数字化人才的市场需求，催生出全球人才流动的新趋势。近年来，数字技术的快速迭代推动以“高科技、高效能、高质量”为特征的新质生产力发展，通过人工智能、云计算、区块链等技术优化配置数据要素，推动全球数字经济规模从2021 年的 38.1 万亿美元增长至 2025 年的 53.9 万亿美元，占全球 GDP 比重达45%。[①]世界经济论坛数据显示，2025-2030 年需求增速前 20 的岗位中，多数与数字技能直接相关。[②]中国郑州富士康“灯塔工厂”通过工业互联网实现生产效率提升 102%，全球近半数“灯塔工厂”分布于传统产业，这一现象印证数字技术对职业生态的重塑效应——麦肯锡预测，2030 年自动化技术将取代约 30%职业活动，但同步创造 1.3 亿个新就业岗位。[③]

表 2.1　2025-2030 年行业间需求增加的前 20 个工作角色

大数据专家	**数据分析师和科学家**
金融科技工程师	环境工程师
人工智能和机器学习专家	信息安全分析师
软件与应用程序开发人员	开发运维(Devops)工程师
安全管理专家	可再生能源工程师
数据仓库专家	机器人工程师
自动驾驶和电动汽车专家	区块链开发人员
UI 和 UX 设计师	数据工程师
轻型卡车或快递服务司机	数字化转型专家
物联网专家	流程自动化专家

资料来源：世界经济论坛. The Future of Jobs Report 2025.

① 中国信息通信研究院.《全球数字经济白皮书（2022)》[R/OL].（2022-7-29）[2022-10-8].
② 世界经济论坛. The Future of Jobs Report 2025[R/OL]. (2025-01）[2025-03-26]. https://reports.weforum.org/docs/WEF_Future_of_Jobs_Report_2025.pdf
③ 10 McKinsey Global Institute. Generative AI and the future of work in America. [EB/OL].(2023-07-26)[2025-03-27]. https://www.mckinsey.com/mgi/our-research/generative-ai-and-the-future-of-work-in-america.

第三章 全球主要国家人才流动政策动向

人才跨国流动已成为全球化进程中的常态，人才对流入地经济增长与产业发展的推动作用日益显著。基于这一趋势，多国纷纷出台政策，旨在吸引更多人才入境就业、创业与定居，通过整合国际智力资源助力本国经济社会发展。当前复杂的国际局势推动形成多极化、区域化、数字化的世界格局，为加速经济复苏，全球范围内的人才竞争日趋激烈。许多国家正采取针对性政策措施，致力于在新形势下吸引更多高层次人才流入。

一、美国

（一）拜登政府拓宽 STEM 学科领域，放宽移民政策

2022 年 1 月，美国国土安全部正式发布了《STEM 领域指定学科项目列表更新》，新增了 22 个 STEM 学科领域，包括生物能源、环境地球科学、数据科学、计算社会科学等。2023 年和 2024 年，又新增了景观建筑学，机电一体化、机器人及自动化工程技术，复合材料技术/技术员，语言学与计算机科学，发展与青少年心理学，地理空间情报，人口学与人口研究，环境/自然资源经济学等专业。这一更新涵盖了多个新兴技术学科和交叉学科，旨在让更多学生享受到 STEM 专业的相关优惠政策，大幅度扩展了国际人才引进的领域。2022 年，美国国土安全部修改了美国公民及移民服务局政策手册指南，以确保 STEM 专业人才在申请永久居留权和选择性实习培训方面享有更多便利。据新的指南，自 2022 年起，国家利益豁免（National Interest Waiver，NIW）签证类别适用于部分 STEM 领域的专业人士和企业家，这意味着雇主或申请人不必证明没有其他美国人能够胜任其工作。《移民和国籍法》允许雇主为具备特殊能力的个体或拥有高级学位的职业人员提交移民申请。而根据最新的政策手册，符合国家利益的移民可以在没有雇主的支持下自行申请 NIW 签证，这使得 STEM 领域的专业人士和企业家

在申请绿卡时更加便捷，审批时间也得以缩短。该政策手册指南更新了 STEM 领域专业人士申请选择性实习训练（OPT）的政策。明确表明符合条件的 F-1 学生可以申请 24 个月的 STEM OPT 延期。并且如果学生在未来又获得了符合条件的更高教育的 STEM 学位，学生可以申请额外一次 24 个月的 STEM OPT。[①]

（二）特朗普 2.0 时代的国际人才新策略

特朗普于再次上任的第一周内，其政府共发布了 98 项行政命令，其中有 10 项与移民政策直接相关，创下了四十多年来美国总统在“百日新政”期间发布移民相关命令数量的最高纪录。这些行政命令包括《保护美国人民免受入侵》（Protecting the American People Against Invasion）、《维护美国公民身份的意义与价值》等[②]。目前，特朗普政府关于国际人才的具体措施主要包括：加强签证审查、加强对 H-1B（专业人士）雇主的合规审查等。

签证申请流程将引入更严格的“加强审查”（enhanced vetting），导致办理周期延长，补件请求（Request for Evidence, RFE）频率提升，从而延长签证办理时间，影响留学或就业的资格，给外籍人才带来不便。2025 年 6 月 18 日，美国国务院正式宣布将要求所有申请赴美学生签证的外国人进行社交媒体等网络活动审查。所有申请学生签证的留学生必须将本人的社交媒体账号设置为公开状态以便美领事馆官员审查其反对美国政府、文化、理念的言论。

当前，持 F-1（学生）签证并在近期完成 STEM 相关专业学习的外籍留学生，若符合条件，可申请 OPT，最长期限为 12 个月基础期加 24 个月延期，并享有 90 天的求职时间。特朗普政府可能将其整体缩短为 12 个月，甚至更短，这将大幅降低企业雇佣外籍毕业生的性价比，加剧 STEM 行业人力短缺。

加强对 H-1B 雇主的合规审查，通过 FDNS（Fraud Detection and National Security）例行访问，核查是否依法支付与当地薪资水平一致的工资，以及员工注

① 本部分内容来自：郑金连,蒋京蓉，张宇轩. 北美洲热门留学国家的留学现状分析[M] //欧美同学会（中国留学人员联谊会），全球化智库（CCG）. 中国留学发展报告（2024~2025）. 北京: 社会科学文献出版社, 2025:51-54.

② Federal Register. 2025 Donald J. Trump Executive Orders [EB/OL]. [2025-03-28].https://www.federalregister.gov/presidential-documents/executive-orders/donald-trump/2025.

册地址是否与实际工作地点相符[①]。因违规雇主将面临罚款，这为雇主招聘外籍工人增添了额外顾虑，从而减少在美外籍工人职位的提供。美国拟于 2025 年实施 H-1B 签证政策改革。针对当前部分企业滥用外籍劳工、压低薪资的问题，新政将通过两项关键措施：一是大幅提高外籍员工最低工资标准，确保企业仅在技术短缺岗位聘用专业外籍人才；二是强化监管，由国土安全部牵头开展雇主合规审查，移民局与劳工部联合打击签证欺诈。此举旨在保障本土就业的同时，精准引进高端技术人才。[②]

二、韩国[③]

（一）大力吸引外国学生赴韩学习

韩国高校的国际化发展程度较低，在国际上的竞争力较弱，急需招收外籍学生营造多元的高校学习氛围，提升在全球范围内的影响力；同时，韩国社会也面临着人口出生率低、劳动力短缺的问题，需要通过招收国际学生促进外籍人员在韩就业。因此，韩国政府在政策上大力支持国际学生赴韩学习。2023 年 8 月 16 日，韩国中央政府公布了新的”留学生教育竞争力提升方案“（Study Korea 300K Project），计划将在 2027 年实现招收 30 万国际学生的宏伟目标，并将为实现这一目标出台一系列有关国际学生招生、培养、就业、定居的支持政策。

为吸引更多国际学生赴韩留学，韩国政府进一步放宽了韩国留学签证的办理要求。2023 年 7 月 3 日开始实施的新签证规定降低了办理学生签证的存款证明金额要求，申请 D-2 签证的学生需准备的存款证明金额从 2,600 万韩元降至 2,000 万韩元，申请语言学习签证（D-4）的学生需准备的存款证明金额从 1,300 万韩元降至 1,000 万韩元，对于申请在韩国主要城市之外学习的学生，这一标准还可

① Im, J. Y. How the Trump 2.0 Immigration Policy Will Impact Tech Employers [EB/OL]. (2025-03-03) [2025-03-28]. https://www.fisherphillips.com/en/news-insights/how-the-trump-immigration-policy-will-impact-tech-employers.html.
② McLaughlin, R. H-1B Prevailing Wage Changes Under Trump: What Employers Need to Know [EB/OL]. (2025-03-20) [2025-03-28]. https://www.boundless.com/blog/prevailing-wage-changes-under-trump/.
③ 如无特殊说明，本部分内容来自：郑金连,王赵琼宇. 亚洲洲热门留学国家的留学现状分析[M] //欧美同学会（中国留学人员联谊会），全球化智库（CCG）. 中国留学发展报告（2024~2025）. 北京: 社会科学文献出版社, 2025:134-135.

以进一步下降至 1,600 万韩元（D-2 签证）和 800 万韩元（D-4 签证）。该项政策使家庭条件一般的国际学生赴韩留学更加便利。

（二）进一步放宽就业政策，吸引优秀国际学生留韩工作

为吸引国际学生在韩就业，韩国政府在工作时长、语言要求、签证办理等方面出台了一系列鼓励在韩国际学生在当地工作的政策，既关注到毕业生的求职需要也兼顾了在读学生的兼职需求。首先，韩国政府为在韩访问学生提供了兼职的工作机会，同时将原本每周 20 小时的最高工作时长上调至 25 小时（在主要城市之外的学生每周最多可工作 30 小时）；其次，为降低赴韩国际学生在韩工作的难度，韩国政府放宽了在韩工作的语言要求，原先在韩工作仅可通过TOPIK语言成绩证明自身语言能力，但新政策规定世宗韩国语评价考试（SKA）与韩国语能力评价考试（KLAT）成绩也可用于与工作相关的语言能力证明；此外，为方便在韩留学生毕业后留在韩国就业，政府也放宽了工作签证办理的要求，原先外籍人员办理长期E-7-4 签证需要有 5 年的在韩经历，现已调整为 4 年；最后，政府也放宽了雇佣外籍劳动者的限制，使国际学生毕业后更容易在韩国获得就业机会。

（三）面向高新技术领域设置新的签证类型，吸引高技术人才

为进一步吸引国际优秀人才，韩国自 2024 年起启动新一轮移民制度改革，包括设立“顶级签证”，聚焦人工智能、半导体与生物科技领域。该签证有较严格的标准，意在吸引最顶尖的就业人才，促进国家整体经济发展。该签证仅面向在全球百强高校取得硕士或博士学位的优秀毕业生，还规定该毕业生需要拥有至少八年以上的工作经历，并且其中三年以上必须在世界 500 强企业就职。满足条件的高端人才入职本地高科技企业后即可享受长期工作与定居便利；相关人才可先获得D-10 求职签证，最长停留两年，后转为F-2 长期签证，自由就业三年后可申请在韩国永居。[①]此外，为促进各区域的发展，韩国还联合各地方政府新推行

① Koh, H. J. , Top-tier’ visa seeks to woo foreign talent to high-tech sectors [EB/OL]. (2025-03-06) [2025-04-10].

“区域签证”机制。与日本类似，该机制根据区域产业发展差异对合适领域的人才提供优惠政策。例如首尔、釜山等高新技术产业发展迅速的城市就将对半导体、机器人、人工智能等领域的留学生降低签证要求，一些地方还将增加这些学生可以从事的兼职工作时长。全罗道、济州等大力发展基础制造业和旅游业的地区也将放宽对应专业留学生获取签证的难度。除此之外，各地方政府将每三年灵活调整学历、语言与工作年限门槛，并在机器人、AI、造船等领域探索专属签证路径。[①]

三、瑞典

（一）为国际学生设置毕业后衔接期

瑞典移民局以一系列官方条例构建了覆盖“入境—在学—毕业后过渡”的留学生管理体系。完成至少两学期课程的国际学生，可依据《Residence Permit to Seek Employment after Studies in Sweden》申请最长 12 个月的求职 / 创业居留，无需雇主担保，但须维持与在学阶段等额的生活费并持有效健康保险。瑞典给在瑞典就读博士学位的国际学生一次核准最长 4 年的学习居留许可，且这 4 年全部计入申请永久居留所需年限；在瑞典就读博士学位的国际学生，连续合法工作满 4 年（过去 7 年内累计，含在读期间的 4 年）且经济自给，可申请瑞典永久居留。瑞典通过延伸毕业后衔接期，进一步强化了瑞典对科研人才的吸引效应，实现了对国际学生“引、育、留”的制度闭环。[②]

（二）确立以质量控制为核心的高技能人才引进制度

面向更广泛的国际专业人士，瑞典逐步确立了以质量控制为核心的三层次制度。第一层，2022 年起引入“高技能求职 / 创业居留许可”，允许硕士及以上学历

---

https://www.korea.net/NewsFocus/policies/view?articleId=267603.

① Lim, J. W. Gov’t launches new ，regional, ‘top-tier’ visa program as part of immigration overhaul [EB/OL]. (2025-04-02) [2025-04-10]. https://koreajoongangdaily.joins.com/news/2025-04-02/national/socialAffairs/Govt-launches-new-regional-toptier-visa-programs-as-part-of-immigration-overhaul-/2276076.

② Residence Permit for Higher Education https://www.migrationsverket.se/en/you-want-to-apply/study/higher-education.html?utm.

申请人在无雇主担保下停留 3–9 个月寻职或调研创业，申请人须证明每月 13000 瑞郎以上的生活保障并持有医疗保险。[①]第二层，自 2023 年 11 月起，普通工作许可的最低薪资统一提高至瑞典全国工资中位数的 80%，即 2023 年 27360 瑞郎、2024 年 28480 瑞郎，2025 年进一步随中位数上调至 29680 瑞郎，以遏制“薪酬倾销”并提升外籍劳工技术含量。第三层，瑞典已完成对《欧盟蓝卡指令（2021/1883）》的本地化立法，计划自 2025 年 1 月起将蓝卡薪资门槛降至平均工资 1.25 倍，并放宽换雇主及家属随行限制，以增强对顶尖数字、绿色产业人才的吸引力。[②]在长期身份方面，连续四年持工作许可且满足经济自立条件者可申请永久居留；同时，政府于 2025 年提交的调查报告建议把公民入籍的常规居留年限由 5 年延长至 8 年，并新增“诚实生活”与经济自给审核，预计 2026 年生效，显示政策重心由“易入”转向“稳慎整合”。整体来看，瑞典通过无担保求职通道、薪资阈值提升与更严格入籍标准，构建了“灵活引进、高质量留用、审慎整合”的分层式移民与人才管理体系，以支撑其绿色与数字经济战略转型。

四、日本

（一）通过调整工作签证缓解劳动力短缺

近年来，为应对劳动力短缺，日本政府对工作签证相关政策做出了调整。2019 年 4 月起，日本政府在其工作签证中增加了“特定技能签证”（SSW），接收具有专业技能的国际劳工，此类签证在学历方面对申请人没有严格的要求，拓宽了留日就业的途径。[③]为缓解基层劳动力短期缺口，同时避免外籍劳工长期占据低技能岗位，日本政府基于互利原则，与 14 个文化相近的亚洲国家签署合作备忘录。[④]该框架将 14 个国家明确列为“特定技能签证”（SSW）和“技能实习制度”（TITP）

① Look for work or start a business https://www.migrationsverket.se/en/you-want-to-apply/work/look-for-work/look-for-work-or-start-a-business.html?utm.
② Inter-agency initiative to attract and retain international expertise https://www.government.se/press-releases/2024/03/inter-agency-initiative-to-attract-and-retain-international-expertise/.
③ Study in Japan. Jobs and Careers in Japan [EB/OL].[2024-09-02]. https://www.studyinjapan.go.jp/en/work-in-japan/employment/status.html.
④ Japan News. Japan to accept more workers from Central Asia [EB/OL]. (2022-12-18) [2025-03-07]. https://japannews.yomiuri.co.jp/society/general-news/20221218-78210/; The Economist. Japan and South Korea are allowing in some foreign workers [EB/OL]. (2022-11-03) [2025-03-07].

的核心人才供给国。其中，SSW 签证面向已完成职业培训的中低技能劳动者，允许其短期居留务工，TITP 则通过技能培训帮助发展中国家劳动者获取特殊技艺，表现优异者可转为 SSW 签证。[①]此举既满足日本产业急需，又为合作国培养技术人才，实现双向赋能。

（二）加强对创业人才、高技能人才及战略领域人才的引进

2023 年，日本推出“未来创造人才签证”（J-Find）和“特殊高技能人才签证”（J-Skip），给予创业人才、特殊高技能人才更大便利和支持；同年，该国实施“对日投资扩大行动计划”，助力半导体等战略领域人才引进。[②]

（三）注重国际化青年人才的储备

日本基于 2023 年《J-MIRAI 战略》设定双线目标，即在 2033 年前将国际留学生规模从 28 万扩至 40 万，并输送 50 万本土学生海外深造。具体措施包括：增设英语授课学位项目、拓展高校联合培养计划、强化中学英语教育体系，同时完善面向国际生的日语教学网络。日本还于 2024 年 2 月启动了留学生“就业特区”，在福冈县北九州市启动新的国际学生就业机制，放宽了留学生留日求职所需的在留资格要求，使留学生更容易在日本成功就业。此外，与新加坡的做法类似，“留学日本全球网络项目”自 2014 年起在全球铺设宣传据点，系统化推广日本教育品牌。这种“引进来+送出去”的协同机制，既提升本国人才国际化水平，又构建全球青年人才储备库。[③]

---

https://www.economist.com/asia/2022/11/03/japan-and-south-korea-are-allowing-in-some-foreign-workers.

① Ministry of Foreign Affairs of Japan [MOFA]. What is the SSW? [EB/OL]. (2019-XX-XX) [2025-03-07]. https://www.mofa.go.jp/mofaj/ca/fna/ssw/us/overview/

② 王辉耀,苗绿,郑金连.完善海外引进人才支持保障机制，赋能新质生产力发展[J].智库理论与实践,2024,9(05):24-30.

③ The Government of Japan [JapanGov]. J-MIRAI – Japan-Mobility and Internationalization: Re-engaging and Accelerating Initiative for future generations [EB/OL]. (2023-04-27) [2025-03-07]. https://www.cas.go.jp/jp/seisaku/kyouikumirai/pdf/230427jmirai.pdf; Akimoto, D. Can Japan Boost Its Foreign Students Count to 400,000? [EB/OL]. (2024-05-16) [2025-03-07]. https://thediplomat.com/2024/05/can-japan-boosts-its-foreign-students-count-to-400000/

五、中国

（一）探索建立高技术人才移民制度

《国家中长期人才发展规划纲要(2010－2020 年)》提出，加大引进国外智力工作力度，探索实行技术移民。党的十八大以来，党和国家高度重视海外人才引进工作，外国人才项目管理服务水平不断提高，引进外国人才法治环境不断优化，外国人才管理体制改革取得重大进展。2016 年 6 月，中国加入国际移民组织，正式成为组织成员国之一，这是中国深入参与全球治理，深化国际移民合作的必然选择。2018 年 3 月，全国人大通过国务院机构改革方案，正式组建国家移民局，标志着中国移民治理正式步入体系化发展进程。

与此同时，国家和地方积极借鉴国际经验，探索通过技术移民制度来吸引海外人才。2019 年 2 月，《粤港澳大湾区发展规划纲要》提出，粤港澳大湾区要在技术移民等方面先行先试，并提出“紧缺人才清单制度”“外籍高层次人才认定标准”等技术移民方面的举措。2020 年 8 月，《中国（北京）自由贸易试验区总体方案》提出“试点开展外籍人才配额管理制度”。2021 年发布的《中华人民共和国国民经济和社会发展第十四个五年规划和 2035 年远景目标纲要》提出“探索建立技术移民制度”。同年，《深圳市国民经济和社会发展第十四个五年规划和二〇三五年远景目标纲要》提出，“实行更加开放便利的境外人才引进和出入境管理制度，探索实施技术移民政策”；当年，《广州市科技创新条例》施行，其第二十四条明确“市人民政府应当推进国际化人才特区建设，开展技术移民试点”，技术移民首次纳入地方法规。[①]党的二十届三中全会提出探索建立高技术人才移民制度，进一步完善海外引进人才支持保障机制，努力形成具有国际竞争力的人才制度体系。

① 王辉耀,苗绿,郑金连.完善海外引进人才支持保障机制，赋能新质生产力发展[J].智库理论与实践,2024,9(05):24-30.

（二）不断加大对外开放力度，扩大免签范围

中国的人才对外开放力度不断加大，“近悦远来”引才用才格局进一步形成，逐步从世界最大人才流出国转变为主要人才回流国，正在成为创新人才集聚、创新要素整合、创新活动活跃的全球人才高地。[①]国家移民管理局持续深入推进移民管理制度型开放，不断优化移民出入境便利政策，持续提升外国人来华旅行、生活便利度。截至 2025 年 6 月，中国 240 小时过境免签政策适用国家增至 55 国，持有效国际旅行证件和确定日期及座位的联程客票，从中国过境前往第三国或地区，可从北京、上海等 24 个省（区、市）60 个开放口岸中的任一口岸免签入境，并在规定区域停留活动不超过 10 天。停留期间可从事旅游、商务、访问、探亲等活动。同时，中国持续优化入境政策，不断扩大免签国家范围，让更多外国朋友来中国体验更优质的产品供给、更多元的消费场景和更便利的服务保障，以更大范围的开放、更深层次的合作与各国共享繁荣。截至 2025 年 6 月 9 日，中国单方面免签“朋友圈”增至 47 国，持这 47 国普通护照人员来华经商、旅游观光、探亲访友、交流访问、过境不超过 30 天，可免办签证入境。免签“名单”不断变长，彰显了中国持续推进高水平对外开放的坚定决心。

（三）推进教育、科技、人才“三位一体”协同发展

2020 年 6 月，《教育部等八部门关于加快和扩大新时代教育对外开放的意见》进一步提出：“提升我国高等教育人才培养的国际竞争力，加快培养具有全球视野的高层次国际化人才……提高基础教育对外开放水平，培养德智体美劳全面发展且具有国际视野的新时代青少年。”[②] 2021 年 9 月，中央人才工作会议提出：“培养具有国际竞争力的青年科技人才后备军……加大人才对外开放力度……要结合新形势加强人才国际交流……人才对外开放是双向的，不仅要引进来，还要走出去。要采取多种方式开辟人才走出去培养的新路子，使人才培养渠道多元化，储备更多人才。”党的二十大报告指出：“教育、科技、人才是全面建设社会

① 丁小溪，范思翔，张研.《聚人才之力 筑复兴之基——新时代人才事业发展成就综述》，2022 年 8 月 21 日，http://www.news.cn/politics/2022-08/21/c_1128933335.htm.
② 张烁. 教育部等八部门印发意见，加快和扩大新时代教育对外开放[N]. 人民日报, 2020-06-23(16).

主义现代化国家的基础性、战略性支撑。必须坚持科技是第一生产力、人才是第一资源、创新是第一动力，深入实施科教兴国战略、人才强国战略、创新驱动发展战略，开辟发展新领域新赛道，不断塑造发展新动能新优势。”同时，也强调，实行更加积极主动的开放战略，形成更大范围、更宽领域、更深层次对外开放格局；实施更加积极、更加开放、更加有效的人才政策；着力造就拔尖创新人才，聚天下英才而用之；完善人才战略布局，着力形成人才国际竞争的比较优势；加强人才国际交流，用好用活各类人才。

党的二十届三中全会通过的《中共中央关于进一步全面深化改革 推进中国式现代化的决定》提出，统筹推进教育科技人才体制机制一体改革；实施更加积极、更加开放、更加有效的人才政策，完善人才自主培养机制，加快建设国家高水平人才高地和吸引集聚人才平台；完善海外引进人才支持保障机制，形成具有国际竞争力的人才制度体系。

2025 年，中共中央 国务院印发的《教育强国建设规划纲要（2024—2035 年）》提出，完善教育对外开放战略策略，提升全球人才培养和集聚能力，扩大国际学术交流和教育科研合作，积极参与全球教育治理。

六、德国

（一）《技术移民法》放宽对非欧盟籍技术人士的移民申请限制

德国《技术移民法》于 2020 年初生效，该法旨在放宽对非欧盟籍技术人士的移民申请限制，引入适龄外籍人口以应对相关行业劳动力短缺问题，预计每年为德国带来 25000 名专业及技术人才。该法扩大了合格的专业人才来德国工作的可能性，尤其是来自非欧盟国家的、经过专业、非学术培训的技术工人将更容易到德国工作。合格专业人才的条件放宽到经过至少两年的培训课程而且具有大专学历或职业培训资格的人员，其进入劳动力市场也更加容易，只要拥有一份雇佣合同或一份特定的工作机会，并具有德国认可的资格即可以申请，而且可以从事

其有资格的相关职业。[①]拿到工作合同或入职邀请的人都可以申请有效期为 4 年或者与雇佣合同期限相同的居留许可，4 年后，申请人可以申请德国永久居留许可。该法也为紧缺的特殊行业人才制定了移民德国的“绿色通道”，如医生、注册认证护士等不需要在德国申请职业资格认证，只需证明在相关行业具有至少 5 年的从业经历，就可以申请德国移民。尚未确定工作，但具备基本德语技能并能经济自给的非欧盟籍人士，不论其技能水平，均有权以寻求就业机会为由在德国停留 6 个月。[②]

（二）不断放宽技术人才进入德国劳动力市场的要求

2023 年和 2024 年，德国政府对《技术移民法》进行了若干次重要修订，进一步扩展了政策的具体措施和适用范围。2023 年 10 月 18 日起,推出了新版“欧盟蓝卡”，并取消了对来自西巴尔干地区劳动力的劳动合同期限限制。根据“职业经验规定”，放宽了对 IT 技术人员的职业资格或学术文凭要求；只要拥有两年相关工作经验，即可直接进入德国劳动力市场，无需与德国的专业或学历认证挂钩。2024 年 3 月 1 日起，德国将原本仅适用于 IT 人才的“职业经验规定”扩展至除受监管职业以外的所有外籍劳工。

① The Federal Government. https://www.make-it-in-germany.com/en/visa/kinds-of-visa/work/skilled-immigration-act/.
② Fachkräfteeinwanderungsgesetz vom 15. August 2019.[2022-10-10]. https://fachkraefteeinwanderungsgesetz.de/gesetzestext/.

第四章 全球人才流动治理及相关建议

一、全球人才流动中的国际组织

（一）国际组织的全球人才流动治理实践

国际组织在人才流动治理中发挥着重要作用。国际组织为全球人才流动治理提供了知识性与物质性的公共物品，推动国家与非国家行为体、私营部门等利益相关方的合作，促进全球人才流动治理伙伴关系的建立，还凭借平台的开放性与组织的专业性，有效解决全球人才流动的实际性问题。当前的全球人才流动治理相关组织主要包括联合国、世界银行、国际劳工组织、国际移民组织、国际移民与发展中心等。

1. 联合国

联合国成立于 1945 年，在国际移民治理方面主要有两方面贡献：一是建立一些由国际公约组成的国际移民规范性框架，从人权、就业、形式等方面保障国际移民的权利。二是联合国相关机构以及联合国专门机构，包括国际劳工组织、移民署（国际移民组织）、联合国难民事务高级专员办事处、人权理事会、世界银行、世界贸易组织、世界卫生组织等，都在各自的职权范围内对国际移民投入关注，形成了联合国系统应对国际移民问题的机制性框架。[①]

2. 国际劳工组织

国际劳工组织（International Labour Organization，ILO）是以国际劳工标准处理有关劳工问题的联合国专门机构，总部在日内瓦。1919 年，根据《凡尔赛和约》，国际劳工组织以国际联盟附属机构的身份成立，并在 1946 年成为联合国旗下最早的特定领域专业机构。其宗旨是促进充分就业和提高生活水平；促进劳资合作；改善劳动条件；扩大社会保障；保证劳动者的职业安全与卫生；获得世界

① United Nations. About the UN. Available at: https://www.un.org/en/about-us.

持久和平，建立和维护社会正义。[①]在人才流动方面，国际劳工组织主要有三方面贡献：一是通过协议和公约，制定保护移民劳工权益的最低标准；二是开展劳务移民领域的研究和实践，向成员国提供信息咨询、培训、技术援助；三是搭建平台，促进国际移民治理的对话合作。国际劳工组织（ILO）于 2014 年推出公平招聘倡议（Fair Recruitment Initiative），并在 2021 年开始了第二阶段，通过加强、交流和传播有关国家和国际招聘流程，改善法律、政策和执法以促进公平招聘，促进公平的商业行为以及赋权和保护工人权利等方式，确保跨境招聘能够得到有限监管，防止人口贩运与强迫劳动。[②]除了搭建对话平台以外，国际劳工组织还深入实施具体项目，加强成员国与成员国之间国际劳务移民治理的能力。例如，为帮助南亚与东南亚国际劳务走廊的劳务移民，国际劳工组织在巴基斯坦实施了为期三年（2020-2023）的“南亚与东南亚劳务移民治理（Governance of Labour Migration in South and South-East Asia，GOALS）”项目。通过改善双边劳动协议（BLA），支持政府制定南亚资格参考框架，推动巴基斯坦引入国家技能护照的方式，在南亚与东南亚此区域和国家层面改善劳务移民的整体治理。[③]

2023 年 11 月,ILO 发起了“全球社会公正联盟倡议”，联合 300 多家合作伙伴，旨在加速实现与可持续发展目标（SDGs）一致的进展，聚焦不平等、劳工权利和体面工作。该倡议面对极端贫困、童工、青年失业和非正规就业等挑战，通过强化倡导、政策协调、知识生产和资源动员，采取演进式策略，不断优化服务，以在社会公正与体面工作目标之间建立有机联结。[④]国际劳工组织于同月通过了“公平转型战略与行动计划倡议”，旨在引导全球向环境可持续型经济转型的过程中实现公平与包容，保障体面就业与社会公正。该计划通过政策协调、社会对话、技能培训和社会保障，减缓对弱势群体的影响。ILO 将为各国，特别是最不发达和气候脆弱国家，提供技术支持、数据和合作，推动有序、公正的绿色转型。[⑤] 2024 年 12 月 1 日，ILO 又发起了计划为期四年的跨国发展合作倡议 STEAM

① 根据国际劳工组织官网（http://www.ilo.org/global/about-the-ilo/lang--en/index.htm）整理。
② International labour Organization. Fair Recruitment Initiative. [2022-9-30]. https://www.ilo.org/global/topics/fair-recruitment/fri/lang--en/index.htm
③ International labour Organization. Governance of Labour Migration in South and South-East Asia (GOALS). [2022-9-30].https://www.ilo.org/islamabad/whatwedo/projects/WCMS_839320/lang--en/index.htm.
④ 全球社会公正联盟倡议官网（https://social-justice-coalition.ilo.org/about）整理。
⑤ International Labour Organization. Resolution concerning a just transition towards environmentally sustainable economies and societies for all. [2023-6-16].

（“为南亚－海湾走廊的移民工人及其家庭扩大社会保障”）。该倡议的先驱项目已在 2021 到 2024 年间与海合会国家在对移民工人的社会保障覆盖上取得阶段性成果。该项目旨在在十个国家推动包容性、性别响应性和以人权为基础的社会保障覆盖。这些国家包括南亚的孟加拉国、尼泊尔、斯里兰卡和印度，以及海湾合作委员会（GCC）成员国：巴林、科威特、阿曼、卡塔尔、沙特阿拉伯和阿联酋。项目致力于在国际劳工占据 75% - 95% 劳动力的南亚-海湾走廊推动包容性和基于人权的社会保障路径。[①]

3. 国际移民组织

国际移民组织（International Organization for Migration，IOM）前身是欧洲移民问题政府间委员会（ICEM），1989 年改用现名，总部设于瑞士日内瓦。2016 年，国际移民组织正式加入联合国系统。[②]国际移民组织定期出版《世界移民报告》，针对国际移民现状以及重点、热点问题展开研究，成为目前国际移民分析方面最全面和最权威的报告。国际移民组织主要在“移民与发展、促进移民、规范移民、被迫移民”四大领域进行移民治理：一是实施移民运输计划；二是提供移民健康与医疗服务；三是开展针对国家的移民治理能力建设；四是关注女性移民者；五是实施高技能移民的返回和融入计划方案，支持发展中国家经济社会发展。

国际移民组织作为解决国际移民问题的重要国际机构之一，近年来不断在全球人才流动的具体事务领域开展了大量的活动，彰显其全球治理行为体的角色。

一是推动联合国大会于 2018 年通过了《安全、有序和正常移民全球契约》。该契约旨在支持国际移民治理方面的国际合作，使得联合国与其他利益相关方能够推出正常移民融入当地社会的相关政策，减少移民群体与当地社会的分裂。

二是帮助移民应对大型传染性疾病。2021 年，国际移民组织通过了新的新冠肺炎疫情战略应对和恢复计划，针对服务持续性、公共卫生措施、疫情影响以

---

https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_norm/@relconf/documents/meetingdocument/wcms_886647.pdf

① 根据国际劳工组织官网（https://www.ilo.org/projects-and-partnerships/projects/stream-extending-social-protection-migrant-workers-and-their-families-south#:~:text=Extending%20Social%20Protection%20to%20migrant,Dialogue%20in%20the%20Gulf）整理。

② 根据国际移民组织官网（http://www.iom.int/）整理。

及信息便利性四个战略目标进行恢复，以降低新冠肺炎疫情对移民工作、生活的冲击。

三是构建全球政策网络。2020 年 12 月，推出全球政策网络，为移民工人提供明确的使用指导。[①]减少移民工人在跨境招聘方面面临的风险，鼓励司法管辖区域之间形成合作机制，推动各国构建安全有序的劳务移民秩序。2024 年，联合学术界，私营企业与移民工人，启动了“IOM 创新基金”（一个推动协作与开发变革性移民解决方案的全球平台）。该基金提供启动资金、培训，并通过构建合作伙伴关系支持可扩展且有影响力的项目。在首次征集中，共收到来自全球 70 个 IOM 办公室的 130 个创意方案。基金通过严格的两步评审流程遴选出 12 个优秀项目，并为团队提供专题培训和一对一辅导等定制支持。[②]

四是联合政府、民间社会和私营部门，创建旗舰项目与倡议。例如移民工人道德招聘旗舰项目。该项目通过提高移民工人的认识和能力、为移民工人发声和赋权、构建符合国际标准的监管机制、私营招聘机构自愿认证以及利益相关者加强对话等方式建立符合道德标准的招聘规范。2021 年 7 月 30 日，国际移民组织与可持续酒店联盟启动合作伙伴关系，通过打击对移民工人的压榨行为、禁止强迫移民工人劳动等方式来解决不道德的招聘问题。[③] 另一例子是国际移民组织（IOM）于 2023 年 3 月发起一项多方参与倡议—GenMig（性别与移民研究政策行动实验室），旨在推动在移民领域形成创新的性别响应型政策、运营、项目和实践。该项目以高度协作为特色，汇聚了来自研究机构、各国政府、联合国机构及其他政府间组织、非政府组织和私营部门的全球合作网络，共同致力于实现性别平等。[④]

五是通过与区域各国政府合作，探索劳动力流动政策与发展模式。2025 年 2 月，人才无国界（TBB）与国际移民组织（IOM）联合启动了为期两年、由加拿

① International Organization for Migration. IOM Launches Global Policy Network to Promote Ethical Recruitment. （2020-12-3)[2022-9-28].https://www.iom.int/news/iom-launches-global-policy-network-promote-ethical-recruitment

② 根据国际移民组织官网（https://www.iom.int/iom-innovation-facility-fostering-transformative-solutions）整理

③ International Organization for Migration. IOM and Sustainable Hospitality Alliance Launch Multi-Year Partnership to Promote Ethical Recruitment, Protect Migrant Workers in Tourism. (2021-7-30)[2022-9-28].https://www.iom.int/news/iom-and-sustainable-hospitality-alliance-launch-multi-year-partnership-promote-ethical-recruitment-protect-migrant-workers-tourism

④ 通过国际移民组织官网（ https://genmig.iom.int/）整理。

大移民、难民和公民事务部（IRCC）资助的项目—“建设生态系统能力以扩大劳动力流动规模”，旨在为拉丁美洲和加勒比地区的移民和难民拓展劳动力流动路径。该项目致力于提供安全、正规且技能导向的迁移机会，减少移民对偷渡者的依赖，打击剥削行为，并通过英语、软技能、面试准备和行业知识培训提升候选人的就业能力。并将记录整个项目的经验教训，向区域各国政府和全球难民劳动力流动特别工作组分享成果，推动更多包容性、可复制的国际劳动力流动模式。[①]

4. 其他国际组织

其他国际组织亦广泛参与了全球移民治理。世界银行（World Bank）自 2006 年起每年发布 2-3 期《移民和发展报告》，对国际移民汇款、高技术工人移民、移民的决定性因素、人口的短期迁移、社会保护与管理、贸易、外国直接投资与移民的关系等问题进行深入分析。[②]并从全球经济学视角剖析国际移民在宏、微观层面的效应与影响，揭示了国际移民及汇款对全球经济的积极贡献。2025 年 4 月，世界银行发起了全球技能伙伴关系（GSPs）倡议，旨在应对当前全球劳动力结构的失衡问题：一方面，高收入国家面临人口老龄化和关键领域的技能短缺；另一方面，低收入国家的青年人口快速增长，却普遍缺乏进入优质就业岗位所需的技能。GSPs 通过由输出国和输入国共同投资输出国的教育与培训体系，既提升当地人才培养能力，又促进有序的技术移民，实现双赢。[③]

经济合作与发展组织（Organization for Economic Co-operation and Development），简称经合组织（OECD），提供较为完备的移民数据库和有深度的移民研究报告，为移民问题研究者和移民政策制定者提供了研究材料和政策制定依据。[④] 经合组织（OECD）于 2023 年 6 月所发起的“数字技能战略”。其旨在通过两大路径提升失业人群的数字技能，以应对不断增长的本地数字技能需求：

① 通过国际移民组织官网（https://lac.iom.int/en/news/tbb-and-iom-launch-pioneering-initiative-expand-labour-mobility-pathways-latin-america-canada-and-other-countries-destination#:~:text=Panama%20%E2%80%94%20Talent%20Beyond%20Boundaries%20(TBB,Latin%20America%20and%20the%20Caribbean）整理。
② 根据世界银行官网（http://www.worldbank.org/）整理。
③ 根据全球技能伙伴关系官网（https://gsp.cgdev.org/2025/04/22/world-bank-publishes-guidance-on-global-skill-partnerships/）整理。
④ 根据经济合作与发展组织官网（http://www.oecd.org/）整理。

一是通过就业中心的工作坊和培训课程提升基本数字技能；二是与本地企业和机构合作开展试点项目，测试包括在线学习、游戏化学习和实习在内的多种创新培训方式。该战略在哥本哈根实施，并与微软等企业合作，针对用人单位和求职者的实际需求，提供定制化的技能提升方案。[①]

此外，世界贸易组织、国际红十字协会在移民治理上也有一定的贡献。在 2001 年世界贸易组织多哈回合谈判中，服务贸易成为了讨论的主题，而全球范围流动的人员即服务的提供者，这意味着世界贸易组织也开始参与移民问题尤其是移民工人的在治理。在移民与全球发展等国际论坛上，世界贸易组织始终是重要的参与者。2023 年，世贸组织于与世界银行联合启动了“服务贸易促进发展”倡议，旨在帮助发展中国家扩大在全球服务贸易中的参与，特别是在第 4 类模式（人员跨境流动）方面。该倡议通过技术援助、政策支持和同业互学，协助各国消除监管障碍，并将服务贸易与国家发展目标相衔接。[②] 而国际红十字协会则重点关注非法移民、难民问题。国际红十字协会与 2024 年通过了《2024–2030 年红十字与红新月运动移民战略》，红十字与红新月运动首次建立统一框架，明确三大机构（国家协会、国际联合会、国际委员会）在移民领域的共同愿景、目标与承诺。该战略也为外部合作伙伴、捐助方和利益相关者提供合作方向，提升外界对运动在移民议题上立场与行动的认知。[③]

（二）区域性合作组织的全球人才流动治理实践

联合国及其下属机构属于全球性国际组织，这一属性使得国际组织在参与全球移民治理时，相对更容易超脱国家利益的直接制约，进而致力于促进国际移民福利。然而在具体执行环节，移民问题的解决效果往往取决于当事国家（如来源国、中转国、接收国）的态度与政策，而这些国家在考量移民议题时，通常会将国家利益得失作为重要出发点。相较之下，区域性合作更能体现移民治理中的分

① 根据经济合作与发展组织官网（https://www.oecd.org/en/publications/providing-local-actors-with-case-studies-evidence-and-solutions-places_eb108047-en/the-digital-skills-strategy_0b8a5e0b-en.html）整理。
② World Trade Organization & World Bank Group. Trade in service for development. [2023]. https://www.wto.org/english/res_e/booksp_e/trade_in_services_and_development_e.pdf
③ 通过国际红十字协会官网（https://www.ifrc.org/document/migration-strategy-international-red-cross-and-red-crescent-movement-2024-2030）整理。

歧点，这种合作模式在兼顾当事国利益的同时，也更有利于形成针对区域性移民问题的互利共赢方案，推动可持续治理路径的构建。

1. 欧盟委员会

欧盟委员会下设迁移与内政部门（Department of Migration and Home Affairs）负责管理国际人才流动问题。迁移与内政部门负责的迁移事项是欧盟委员会当前的十大优先事项（10 Priorities）之一。[①]欧盟对于国际移民问题极为重视，保证人员的自由流动与安全也是欧盟的根本宗旨之一。欧盟通过《马斯特里赫特条约》《阿姆斯特丹条约》《尼斯条约》《里斯本条约》等，以法律的形式允许在欧盟成员国居住或持有工作签证的移民拥有在欧盟境内自由流动的权利。

2023 年，欧盟委员会借“欧洲技能年”契机提出“技能与人才流动一揽子计划”，拟建立“欧盟人才库”并修订《欧盟蓝卡指令》，[②]为高技能移民提供统一的法律框架。2024 年，委员会发布《劳动力与技能短缺行动计划》，推动理事会通过“人人流动”学习流动建议，并就人才库法规形成一般立场；同年在“地平线欧洲”框架下启动 ERA Talents 计划，[③]旨在加强科研人员的跨部门流动与合作。2025 年，委员会公布“Choose Europe for Science”人才方案及 MSCA（玛丽·居里学者计划） 博士后试点项目，并继续推进人才库立法谈判，逐步构建覆盖教育、就业与科研的综合性人才政策体系。

2. 东南亚国家联盟

东南亚国家联盟（Association of Southeast Asian Nations，东盟）在亚太地区移民治理上起到了重要的作用。东盟在国际人才流动的实践主要集中于对移民劳工的治理。2007 年东盟第 12 届领导人会议上通过了《东盟关于保护和促进劳工移民权利的宣言》，即《宿务宣言》，肯定了劳工移民群体对东盟各成员国的贡献，采取措施保护移民劳工的权利，防止虐待与人口贩卖，彰显了东盟致力于劳工移

① 关于欧盟委员会迁移与内政部门的具体信息，详见 http://ec.europa.eu/dgs/home-affairs/index_en.htm.
② European Commission, Directorate-General for Migration and Home Affairs. *EU Blue Card* (overview of the revised directive). [2023-11-18]. https://home-affairs.ec.europa.eu/policies/migration-and-asylum/legal-migration-and-resettlement/work/eu-blue-card_en.
③ European Commission, Directorate-General for Migration and Home Affairs. *EU Blue Card* (overview of the revised directive). [2023-11-18]. https://home-affairs.ec.europa.eu/policies/migration-and-asylum/legal-migration-and-resettlement/work/eu-blue-card_en.

民治理的决心。[①]为监督宣言的落实，2008 年东盟成立了“保护和促进劳工移民权利的宣言执行委员会”（ACMW），ACMW 制定了一系列项目和活动，涉及移民的安全迁移、打击人口贩运等方面，有效提高东盟各国政府对保护和促进劳工移民权力的相关认识和政策实行能力。自 2008 年起，ACMW 每年都举办东盟劳工移民论坛，至 2021 年已举办 14 届，通过建立开放平台的方式讨论东盟各成员国政府、工会组织、雇主以及各利益攸关方在国际劳工上所面临的问题，有效推进东盟劳工治理的相关工作进程。

在 2023 年，东盟在雅加达峰会通过的《促进劳动者竞争力、韧性与敏捷性的宣言》[②]及其配套指南，将技能标准协调、终身学习与数字技能强化列为成员国共同遵循的治理框架。同一时期，东盟协调中小企业委员会推动 “Go Digital ASEAN 2”[③] 计划落地，为中小企业及弱势群体提供面向市场的数字素养和网络安全培训，进一步夯实基层技能提升通道。在数字技术层面，《东盟人工智能治理与伦理指南》亦于当年发布，为区域 AI 研发与应用设定透明、公平且以人为本的原则，并把教育和职业培训视为落实治理的关键条件。随后进入 2024 年，老挝轮值主席期间举行的双峰会通过《万象宣言》，[④]就移民工技能流动、认可与发展达成共识，要求各国将技能认证纳入劳务迁移政策并推进资格互认，从而为跨境人才流动提供制度保障。同年在南宁召开的亚太数字人才峰会进一步强调 AI 核心技能的重要性，通过公私伙伴合作倡议扩展区域培训及流动机制。综合来看，东盟已在技能标准化、数字与 AI 培训，以及跨境流动与资格互认三个维度形成互补政策工具，逐步构建起面向区域一体化的人才发展体系。

① ASEAN. Statement of the Establishment of the ASEAN Committee on the Implementation of the ASEAN Declaration on the Protection and Promotion of the Rights of Migrant Workers. [2022-9-30]. https://asean.org/statement-of-the-establishment-of-the-asean-committee-on-the-implementation-of-the-asean-declaration-on-the-protection-and-promotion-of-the-rights-of-migrant-workers/.

② ASEAN. *ASEAN Declaration on Promoting Competitiveness, Resilience and Agility of Workers for the Future of Work* and its Guidance Document. [2023-9-5]. https://asean.org/wp-content/uploads/2023/12/Final-ASEAN-DECLARATION-ON-PROMOTING-COMPETITIVENESS-RESILIENCE-AND-AGILITY-OF-WORKERS-FOR-THE-FUTURE-OF-WORK-AND-ITS-GUIDANCE-DOCUMENT.pdf

③ The Asia Foundation. *Go Digital ASEAN 2*. [2023-6-1]. https://godigitalasean.org/

④ ASEAN. *Vientiane Declaration on Skills Mobility, Recognition and Development for Migrant Workers*. [2024-10-12]. https://asean.org/vientiane-declaration-on-skills-mobility-recognition-and-development-for-migrant-workers/

（三）全球人才流动全球治理主要问题

当前全球治理机制在应对日益激烈的全球人才竞争方面存在局限性，全球人才流动领域的监管存在不足，从长远看可能引发恶性竞争、人才使用效率低下等问题，进而对可持续发展产生不利影响。总体而言，全球人才治理面临若干挑战与空白：

第一，在全球化深入发展的背景下，全球分工协作日趋普遍，多元文化背景的人才更易激发创新活力，但国际社会对人才合作价值的关注与研究相对有限，导致全球范围内尚未形成国际人才合作的共识；事实上，在全球人才流动中，竞争与合作是相辅相成的两个方面，从人类整体发展视角看，合作对优化人才配置、推动共同进步至关重要，不应被忽视。

第二，当前全球在人才流动领域缺乏系统性的对话与协调机制及平台。各国在人才政策、职业资格互认等方面的差异显著，客观上需要通过制度化对话加以协调。目前欧盟、东盟内部及中欧 “人员往来对话项目” 等机制虽已存在，但这类机制多具有区域性特征，稳定性相对有限，且通常局限于政府部门间合作，未能充分吸纳企业、行业协会等社会利益相关方共同参与。

第三，全球人才流动的数据信息存在明显缺口。尽管人才跨国流动规模持续扩大，但关于流动准确规模及分类数据仍较为匮乏，这在一定程度上制约了决策者精准施策和研究者深入分析。近年来职场社交平台的兴起为获取人才数据提供了新可能，其庞大用户基数使规模化数据采集成为现实，但作为商业机构，这类平台在数据使用方面面临隐私保护、商业权益等诸多约束。

第四，人工智能与数字化变革衍生的“算法壁垒”及数据主权诉求，客观上加剧了人才流动的不平衡态势。算力、数据资源与高端平台的高度集中，促使人才向少数技术中心集聚；而各国强化数据本地化管理与跨境数据流动审查的举措，制约了全球人才数据库的互联互通，进而影响对人才供需缺口的精准测度和政策响应效率。

第五，全球人才培养体系与新兴技能需求之间存在结构性错配。在技术迭代周期不断缩短的背景下，许多教育与培训框架仍基于相对静态的学科划分和资格

体系，未能及时响应人工智能、绿色转型等领域对跨学科复合技能的要求，加之职业资格互认与终身学习学分累积机制推进迟缓，进一步加剧了“人才供给—岗位需求”的脱节现象，不仅造成高技能人才的潜在浪费，也对全球创新潜力产生一定程度的抑制。

人才流动对全球经济发展具有重要贡献，这是客观存在的事实。不过，与国际贸易、金融管理等其他经济领域相比，全球层面对人才流动的治理关注相对不足。全球移民，特别是高技能人才的跨国流动，在推动科技进步等方面发挥了积极作用，同时也给全球治理体系带来了新的课题。

二、全球人才流动国际治理的创新应对——国际人才组织联合会

虽然全球人才流动及治理在理论和实际应用层面皆取得了重大进展，但世界上成立的有关人口流动的国际组织如国际移民组织、国际劳工组织等的侧重点并非在人才，前者侧重于难民问题，后者则侧重于劳动者权利保障。而新时期下，越来越多的跨国流动人才，成为了国际人口流动的重要群体，现有的诸多挑战仍阻碍着全球人才流动，限制了这些人才资源对经济和社会发展的潜在贡献。这表明需要通过建设国际组织来进一步讨论和解决一系列关键问题，包括如何更好地发挥在全球范围内流动的人才的作用；如何确保和规范合理的人才流动；如何平衡原籍国和目的国的利益，从而找到解决当前和未来问题的方法。

（一）国际人才组织联合会的宗旨

国际人才组织联合会（Alliance of Global Talent Organizations, AGTO）致力于促进国际人才流动，加强人才的广泛交流与合作，为发展中国家提供基础性人才保障和智力支持，同时与发达国家等加强关键领域的人才合作，从而提高人才流动的便利化，促进人才培养。具体来说，其宗旨概括为以下几个：[①]

① Huiyao Wang, Alistair Michie Editors. Consensus or Conflict? China and Globalization in the 21st Century[M]. Springer. 2021: 201.

一是营造公平竞争的国际人才交流对话环境。推动和支持有关区域性和全球性人才的讨论和对话，提高对国际人才交流过程中出现的机遇和挑战的理解，增强对有效的政策措施的识别和发展，分辨有利于国际合作的综合性方法和措施。

二是提升世界人民福祉，促进国际人才的共享。受制于经济社会发展水平的制约，目前世界各国的人才资源差异很大，这就需要建立人才共享和交流平台，实现国际间人才资源共享。为政府、非政府组织、人才及各种利益相关方提供专业知识、技术等层面支持，提升国家提高人力资本效能的能力。

三是保障国际人才合法权益。在公平、公正、合理原则下，积极引导和规范国际人才的各方面合法权益，维护人才的基本权益和主张。

（二）国际人才组织联合会的功能[①]

国际人才组织联合会作为国际间人才交流合作平台，致力于形成一系列的合作机制，打造平台，聚集信息，为人才的发展和合作服务，并在有效引导国际人才交流、流动、就业、认证、居留方面做出应有贡献。其在功能设计上主要包括四大方面：

达成共识。致力于人才流动治理，促进国际社会达成扩大国际人才交流、人才开放合作、互利共赢的普遍共识。

机制建设。建设全球人才的对话、协调、合作机制。一是通过举办全球人才峰会，对全球人才合作发展进行各方面探讨。二是推动学历互认、职业资格认证等，服务人才全球化发展。三是通过服务机制的建设，尤其是信息的收集和共享，实现对各国以及地区的人才政策和人才发展状况进行评估和指导，推动人才的有序流动。

平台打造。一是信息平台，发挥官方网站和媒体平台作用，收集人才供需信息，发布相关重要指导意见。二是学术平台，发布世界人才年度发展报告和相关行业数据报告。三是数据平台，建立世界人才资源、统计及服务评价等数据库。四是活动平台，以人才为纽带，定期或不定期地举办年会、论坛等活动。五是合

① 本节部分内容来自：王辉耀，苗绿，郑金连. 国际人才学概论[M].北京：中国人事出版社, 2020：208-209.

作平台，加强会员之间、城市之间、国家之间关于人才发展与流动的交流与合作。六是培训平台，开展与人才发展相关培训工作，提高人才管理水平，提高政府和机构的人才服务能力。

信息集成。通过大数据的建设，建立全球人才流动的信息资源库，基于信息分析的基础，为全球人才治理的总体思路、方式和方法提供数据支持手段。

（三）国际人才组织联合会的实践

2016 年以来，全球化智库（CCG）围绕国际人才组织联合会倡议开展了深入研究，在北京、香港、华盛顿、巴黎等地组织了多场专家论证，并在巴黎和平论坛、经济合作组织会议等平台进行展示，将这一组织从概念不断推向落地。2020 年 11 月，在第三届巴黎和平论坛上，国际人才组织联合会举行了成立仪式。成立以来，联合会举办了“疫情下的全球人才流动”系列线上论坛。2023 年在澳门举办“全球人才峰会”，并发布《技术变革下亚洲人才发展报告 2023》；在上海进博会虹桥论坛主会场举办“全球人才流动与发展论坛”，并发布《全球人才流动趋势与发展报告（2022）》。2024 年 5 月，在第 10 届中国与全球化论坛上举办以“全球人才流动与治理”为主题的平行分论坛，发布《国际人才流动与治理报告——以美国为枢纽分析 2024》；2024 年 1 月，与国际移民组织驻华代表处合作，举办国际移民日“人才流动与融入”研讨会。

三、推动全球人才有序流动的相关建议

（一）深化对人才流动价值的认知

各国人民对美好生活的共同追求，推动着人才跨国、跨界流动持续发展。人才流动为各国经济社会发展注入多元要素，为科技创新增添活力，也使各国对国际人才的竞争日趋激烈。尽管当前国际局势复杂多变，但并未阻碍人才流动的进程。在此背景下，促进移民人才、国际学生等国际人才群体的持续流动，通过多渠道建设国际人才交流合作机制，对增进理解、促进民心相通、扩大合作共识、

推动高质量发展具有重要意义。

（二）以高水平开放推动人才流动

在百年未有之大变局背景下，开放已成为时代主题。作为开放的核心要素，人才的自由全面发展离不开更加开放的全球环境。开放程度与综合实力、经济韧性呈正相关关系，也是破除流动壁垒、增进国际理解的有效途径，是实现共同繁荣的重要路径。中国始终坚持主动开放战略，持续扩大开放领域。通过推进高水平对外开放，将为人才流动创造更自由便利的条件。以开放理念深化人才流动制度创新，促进深层次交流合作，推动大范围互信共识，是构建全球人才有序流动格局的基础。

（三）拓展多层次人才交流对话平台

在全球人才竞争与合作需求并存的背景下，需以常态化、制度化方式构建多层次国际人才交流对话体系。通过搭建论坛平台，建立全球人才合作对话机制，推动国际人才交流，促进共商共建共享，形成人才发展与交流的全球共识，提升人才流动的公平性、协同性与包容性。全球人才峰会围绕“加强国际人才交流合作”主题，旨在聚焦跨境人才政策协同、营商环境优化、人文交流机制创新等议题，搭建多边对话平台，推动政策对接与资源共享，助力全球人才集聚高地建设。通过多方参与、循证决策和数据开放，推动相关平台更有效地促进国际人才政策协调，构建更公平、协同、包容的全球人才流动生态。

（四）推进人才流动治理平台多元化与数字化

从区域流动看，全球人才流动格局呈现出从主要流向发达国家向多元流向转变的趋势，新兴国家及南北国家间的人才流动日益显著；从领域流动看，数字经济发展推动工作模式变革，人才数字化转型与跨领域流动趋势明显。人才跨区域流动涉及多国利益，其全球治理需反映多数国家诉求；跨领域流动则推动治理方式变革，要求治理模式创新。首先，鉴于全球人才流动涉及多主体、多领域，治

理平台应注重公平性，实现参与主体多元化；其次，规则引领作用愈发重要，缺乏统一规则将导致无序竞争，加剧人才流动中的不平等现象；第三，需提升治理手段的数字化水平。例如，推动数字基础设施连接与公共服务数字化，助力国际人才融入本地环境，增强国家引才竞争力。

（五）构建数据驱动的全球技能互认与人才流动治理体系

针对人才培养与新兴技能需求的结构性矛盾，可从供需监测、资格互认、数字治理三个维度系统推进。首先，依托多边组织与行业平台建立全球技能观测机制，通过实时数据分析动态发布人工智能、绿色低碳等领域的技能短缺清单，为各国教育、培训及移民政策提供数据支撑。其次，在现有学历认证体系基础上，推动模块化微证书与学分累积制度的跨国互认，实现学习成果的跨境携带与灵活组合，并与高技能人才签证、职业准入标准直接衔接，缩短人才适岗周期。再次，探索设立多边技能发展资金支持机制，推动中低收入经济体的数字基础设施建设与在线实训，促进全球人才供给均衡。同时，探索将学习、实习及工作经历数字化存证，嵌入职业资格审核与签证办理流程，提升人才流动的透明度与监管效率。通过建立数据预测、模块化学习、包容性投入、数字化认证体系，增强人才培养体系对技术变革的响应能力，也为跨区域、跨领域的人才有序流动构建更公平、协同、包容的制度环境。

附件 1 国家人才竞争力评价相关理论及评价体系构建方法

一、国家竞争力理论与评价研究综述[①]

竞争力是一个非常复杂的社会经济现象。对于竞争力，我们可以以不同的假设条件为前提，从不同层面、不同视角开展研究。经济学、管理学、人才学等学科及其分支学科都可以开展竞争力相关研究。由于前提假设和分析工具不同，所关注的竞争力要素有所区别，因而形成了竞争力研究的不同学派。

（一）国家竞争力理论

1. 国际竞争力理论

美国哈佛大学商学院迈克尔·波特（Michael E.Porter）教授在《国家竞争优势》一书中将其国内竞争优势理论应用于国际竞争，提出了著名的“国家竞争优势模型”。波特所指的国家竞争优势就是企业、行业的竞争优势。他认为，国家在国际市场中具有的竞争优势来源于该国的主导产业具有竞争优势，而主导产业的竞争优势源自企业的竞争力。企业优势取决于国内经济环境，其中最重要的因素是要素条件、需求因素、相关和辅助产业和企业战略、组织结构和企业竞争状况等。

2. 国家竞争力的比较评价

从国际角度来比较评价国家的竞争力，世界上广为接受的指标体系和核算方法是瑞士洛桑国际管理发展学院（IMD）提出的《世界竞争力年度报告》（IMD World Competitiveness Yearbook，WCY）和世界经济论坛（WEF）提出的《全球竞争力报告》（The Global Competitiveness Report)。

①本部分内容部分摘自：桂昭明，王辉耀.中国区域人才竞争力报告 No.1[M]. 社会科学文献出版社，2013，pp46-49.

《世界竞争力年度报告》是瑞士洛桑国际管理发展学院（International Institute for Management Development，简称 IMD）发布的国家经济竞争力年度研究报告，自 1989 年起每年发表一期。报告涵盖 64 个经济体，根据可比、可用国际统计数据及其与当地合作伙伴机构的合作选择指标。《世界竞争力年度报告》认为，国家之间的竞争体现在能否为企业营造有利于不断提高竞争力的环境，包括有效的结构、体制和政策等。因此，国家竞争力和企业竞争力是两个互相依存的概念，国家（或地区）的国际竞争力就是其帮助企业保持竞争力的能力，这为进行国家竞争力评价打下理论基础。《世界竞争力年度报告》认为国际竞争力的发展主要取决于一些重要因素，如经济发展、政府效率、企业效率和基础设施等。报告基于 333 项竞争力标准对国家竞争力进行排名，这些标准是利用经济文献、国际、国家和地区资源以及商业界、政府机构和学术界的反馈进行综合研究的结果。随着新理论、研究和数据的出现以及全球经济的发展，相关标准会定期进行修订和更新。[①]

《全球竞争力报告》是由世界经济论坛发布的关于国家经济发展与政策评价的研究报告。自 2004 年以来，该报告依据最新理论和实证研究，根据全球竞争力指数对世界各国进行排名。该报告对 141 个国家和地区的主要竞争力指标进行了评比和分析。它由 110 多个变量组成，其中三分之二来自调查，三分之一来自联合国等公开来源。这些变量被组织成十二个支柱（机构、适当的基础设施、稳定的宏观经济框架、良好的健康和初等教育、高等教育和培训、高效的商品市场、高效的劳动力市场、发达的金融市场、利用现有技术的能力、国内国际市场规模、使用最复杂的生产工艺生产新的和不同的商品、创新），每个支柱代表一个被认为是竞争力的重要决定因素的领域。[②]

（二）竞争力评价研究综述

对竞争力的评价方法有多种多样。按照评价指标的多少，竞争力评价方法可

① IMD. World Competitiveness Ranking. [2022-09-21]. https://www.imd.org/centers/world-competitiveness-center/rankings/world-competitiveness/.
②The World Economic Forum. Global Competitiveness Report. [2022-09-21]. https://www.weforum.org/reports/how-to-end-a-decade-of-lost-productivity-growth.

以分为单项指标评价法和综合指标体系评价法。鉴于竞争力的复杂性，单个指标无法反映区域竞争力的情况，因此通常是根据综合指标体系进行评价。比较常见的评价方法有综合指数法、聚类分析、因子分析、层次分析法等。

根据竞争力评价方法的属性，又可将竞争力评价方法分为四大类:定性评价方法、分类评价方法、排序评价方法和操作型评价方法。

1.定性评价方法

定性评价方法有因素分析法及内涵解析法等几种。因素分析法一般采取“由表及里”的因素分析方式，从最表面、最容易感知的属性入手，逐步深入到更为内在的属性和因素展开分析。内涵解析法将定性分析和定量分析相结合，重点研究影响区域竞争力的内在因素，对于一些难以直接量化的因素，可以采取专家意见或者问卷调查的方式进行分析判断。

2.分类评价方法

分类评价方法有模糊综合评价法、聚类分析方法、物元分析方法等几种。模糊综合评判法既有严格的定量刻画，也有对难以定量分析的模糊现象进行的定性描述，定性描述和定量分析相结合是比较适合区域竞争力评价的评价方法。聚类分析方法是研究分类的一种方法，是当代分类学与多元分析的结合。在区域竞争力评价分析中，可以对不同区域的竞争力状况进行分类，判断区域竞争力的相对强弱。物元分析方法把物理分析理论运用于系统的研究，建立系统物元、相容系统和不相容系统等概念，并提出了化不相容系统为相容系统的有关方法，通过系统物元变换，可以处理不相容系统中的问题。

3.排序评价方法

排序评价方法有综合指数评价法、主成分分析、因子分析、集对分析法、层次分析法、功效系数法等几种。

综合指数评价法是一种综合指标体系评价法。该方法通过选取一定的定性指标以及定量指标，经过无量纲化处理，达到统一量化比较的目的，从而得出具体的综合评价指数。

主成分分析法就是找到几个彼此不相关的综合指标，并且尽可能多地反映原来指标所提供的信息量。

因子分析是假设大量观测变量背后潜藏着少数几个维度，称为“公因子”，每个观测变量总变异中的绝大部分都能够被这几个公因子所解释，不能为公因子解释的部分称为该变量的“特殊因子”。因此，一般情况下，所有观测变量都可以表示为公因子和特殊因子的一个线性组合，称为因子分析的线性模型。

集对分析是一种全新的系统分析方法，核心思想是把确定不确定视作一个系统。在这个系统中，确定性与不确定性互相转化，互相影响，互相制约，并在一定条件下互相转化，用一个能充分体现其思想的确定不确定式子来统一地描述各种不确定性，从而把对不确定性的辩证认识转换成一个具体的数学工具。

层次分析法是用于解决多层次多准则决策问题的一种实用方法，它提供了一种客观的数学方法，来处理个人或者群组决策中难以避免的主观以及个人偏好的影响。

功效系数法是根据多目标规划原理，对每一个指标分别确定满意值和不允许值，然后以不允许值为下限，通过功效函数计算每个指标的功效系数，最后加权计算综合指数的一种评价方法。

4. 标杆测定方法

标杆测定方法不但能够评价和判断竞争力的高低，找出竞争力高低的主要原因，而且其研究结果还能指示提高竞争力的路径。标杆测定法评价竞争力的步骤为:第一，确定标杆测定的主题、对象和内容。第二，组成工作小组并确定工作计划。第三，收集资料，开展调查。第四，分析比较，找出差距，确定最佳方法，明确改进方向，制定实施方案。第五，组织实施，并将实施结果与最佳做法进行比较，在比较的基础上进行修改完善，努力达到最佳实践水平，超过标杆对象。

（三）人才竞争力的内涵及评价

人才竞争力是通过比较而得的相对概念，是一个综合性概念；同时它也是一个动态的概念，随着经济社会环境的发展变化而变化。另外，人才竞争力也是一个差别性概念，不同研究对象——不同国家、同国家不同区域、同区域不同产业（行业）、同产业（行业）不同企业（组织）的竞争力也是不同的。人才竞争力主要由三个部分组成：（1）现实的人才竞争能力；（2）潜在的并且未来可能拥有

的人才竞争能力；（3）把潜在的人才竞争能力转化为现实竞争优势的能力。人才竞争力是蕴涵于内部的、与竞争对手相比较而存在的、受外部环境影响的、融合各种能力的一种综合能力。

人才竞争力评价是人才竞争力研究中的一个重要课题，不仅要用经济学和管理学的方法来探索竞争力的性质、来源、基本因素及其相互关系等问题，而且还要用统计学的方法以数量化的指标把竞争力的状况显示出来。

人才竞争力的指标可以分为两大类：效能指标和归因指标。前者反映的是竞争的结果，也即竞争力的最终表现；后者反映的是形成竞争力的原因或者决定因素。人才竞争力评价是运用经济学、管理学和统计学的相关方法，相对地反映出国家、区域竞争力的真实状况，并做出切合实际的评价和分析。

当前知名的人才竞争力指数有全球人才竞争力指数（Global Talent Competitiveness Index，GTCI）、世界人才排行榜（World Talent Ranking）等，这些指数从不同角度对不同国家的人才竞争力进行研究。

1．全球人才竞争力指数

全球人才竞争力指数于 2013 年首次推出，是欧洲工商管理学院（INSEAD）与其合作伙伴共同发布的一份年度基准报告，通过衡量一个国家在人才培养、吸引、留存等方面的表现，对国家和城市进行测评和排名，从而评估全球各国的人才竞争力，并为各国的政府、企业提供提升人才竞争力的建议。

GTCI 是一个综合指数，采用投入——产出模型，由六类指标（投入端四个，产出端两个）组成。人才竞争力投入分项指数由四项指标组成，描述了一个国家可以用来培养人才竞争力的政策、资源和努力。人才赋能指标反映了监管、市场和商业环境为人才创造有利环境从而实现发展和繁荣的程度。人才吸引指标、人才培养指标、人才保留指标分别关注国家采取哪些措施吸引、培养和留住人才。投入分项指数是以上四大指标所获得分数的算术平均数。产出指标主要通过劳动和技术技能和全球知识技能两个指标衡量。劳动和技术技能对应的是中级技能人才，指通过职业或者专业培训和经验获得技术或专业基础的人才。劳动和技术技能人才的经济影响，主要通过劳动生产率、工资和生产力之间的关系以及依赖这种技能的中等价值出口产品进行衡量。全球知识技能对应的是高级技能人才，主

要指需要创造力和解决问题能力的专业性、管理性或领导性的知识型工作者。高级技能人才的经济影响主要通过创新和创业指标以及依赖这类素质的高价值出口产品进行评估。

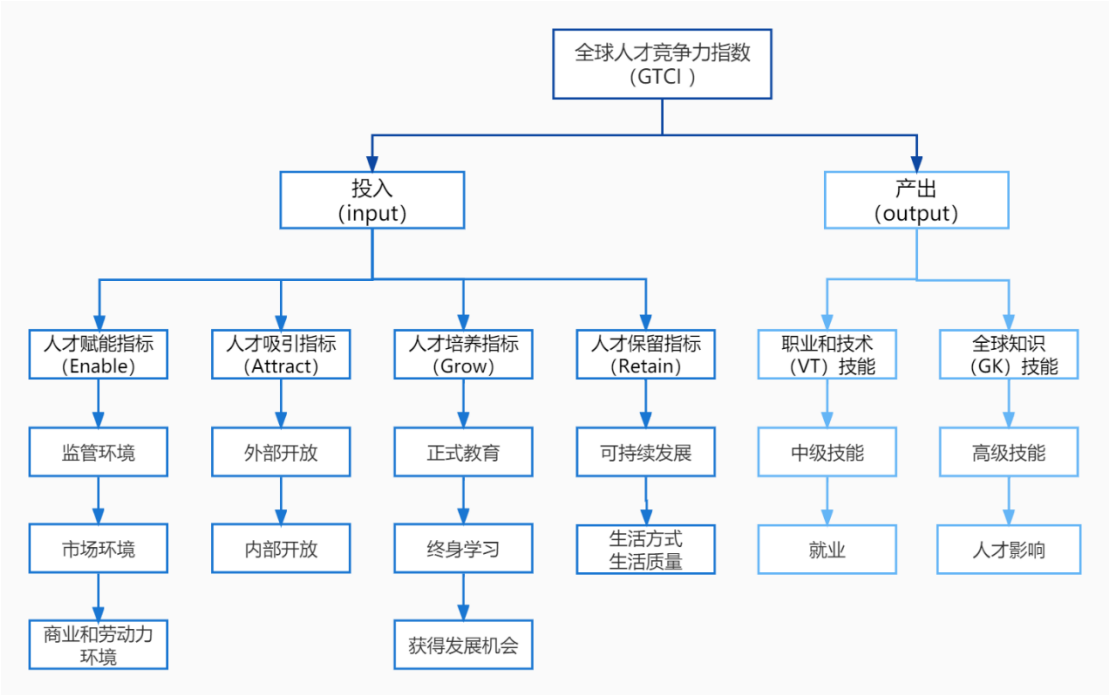

图 5.1　2021GTCI 结构模型图

资料来源：https://www.insead.edu/system/files/2023-11/gtci-2023-report.pdf.

GTCI 的指标体系一直不断改进，如 2023 年的模型在 2022 年的模型上删减了一个指标，并新增加了弱势群体就业一个指标，指标数量保持为 69 个，以期让指数更加稳健。[①]

2. 世界人才排行榜

瑞士洛桑国际管理发展学院发布的《世界人才排行榜》，对世界 64 个经济体在培育当地人力资源及吸引优秀人才方面进行了评估，各项统计指标数据主要由联合国教科文组织、经合组织以及参评国家和地区的合作机构等提供。

《世界人才排行榜》的评估主要由 3 大要素决定：一是对人才的投资与培养，反映政府在教育方面的投资和教育制度的完善水平；二是对人才的吸引力，即反映留住本地人才和吸引海外人才的能力；三是人才储备程度，反映现有人才满足

① INSEAD Research & Learning Hub. THE GLOBAL TALENT COMPETITIVENESS INDEX 2021. https://www.insead.edu/sites/default/files/assets/dept/fr/gtci/GTCI-2021-Report.pdf.

市场需求的能力。IMD 世界人才排行榜的数据标准统一使用《IMD 世界竞争力年度报告》中采用的 STD（标准化分值）方法进行规范，汇集各项因素最终构建整体人才排名，将各因素和总体排名分别以 0~100 的数值呈现出来。

表 5.1　世界人才排行榜评估指标构成

要素	指标
对人才的投资与培养	教育总公共支出
	教育总公共支出/学生数
	学生对教师比率（小学）
	学生对教师比率（中学）
	学徒制度
	员工培训
	女性劳动力
	卫生基础设施
对人才的吸引力	生活成本指数
	人才吸引及留存
	劳动者积极性
	人才外流
	生活质量
	外来技术人员
	服务业薪酬
	管理业薪酬
	实际个人所得税率
	法定最低工资
	司法公正
	接触大气颗粒污染物
人才储备程度	劳动力增长
	熟练工人
	金融技工
	国际经验
	优秀高级管理人员
	小学和中学教育
	毕业生在自然科学的比例
	大学教育
	管理教育
	语言技能
	国内学生流动性
	教育评估——国际学生评估项目（PISA）

资料来源：IMD. World Talent Ranking. https://www.imd.org/centers/world-competitiveness-center/rankings/world-talent-competitiveness/.

二、国家人才竞争力评价体系构建方法

（一）评价体系构建的指导思想

一个国家的经济和科技活动是否活跃主要取决于其是否善于引进、培育和留住人才，并充分发挥其作用。因此，如何营造出吸引人才、培养人才、留住人才、发挥人才积极性的环境，是需要优先考虑的战略问题。

对于一个国家而言，人才竞争力的基础和最根本的因素是其对人才资源的培育、吸引、争夺、拥有、使用及转化能力。

从事物发展的角度来讲，资源观和环境观的关系是对一个事物发展起作用的“内因”和“外因”之间的关系。

人才流动和人才集聚的规律显示，人才发展中的经济地位、教育平台、科技平台、社会环境、人文传统等因素对人才的流动和集聚影响很大，有时成了决定性的因素。表面上看，人才在不同的国度之间流动，实质上其实是在不同的体制、机制、制度环境和不同的经济、科技、社会、人文环境之间的流动。哪个地方适合人才充分发挥其才智、有利于人才的长足发展，人才就向那个地方集聚。因此，在设置国家人才的外在竞争力指标时，将突出考虑这类指标的重要性（用较高的权重来体现）。

（二）评价体系设计的基本原则

1. 科学性原则

本报告在构建“人才竞争力评价体系”时，运用当前人才发展研究的最新成果，充分结合已有的评价体系，设置与人才特征密切相关的指标，使得评价体系科学地、完整地反映人才竞争力的本质。

2. 可量化原则

尽管体制、机制、制度环境等因素直接影响国家人才竞争力，但此类因素的评价具有很大的主观性，受到评价人的主观意识、认知能力乃至个性、好恶的左右，难以得到客观、公正的评价。因此，本报告在评价体系设计中，一概不采用

通过问卷调查等方法得到的定性评价结果，所有指标均为世界银行等机构发布的统计数据以及根据这些数据计算得到的定量结果。

3. 可比较原则

鉴于人才竞争力是一个差别性概念，本报告将对国家人才竞争力的不同指标进行指数化处理，使得研究的对象具有可比性。

（三）评价体系的结构

根据以上原则，设计出专门用于国家人才竞争力的评价体系结构。在此评价体系中，我们将人才竞争力分为体现人才竞争力的内在要素、影响人才竞争力的外在要素以及表征人才竞争力现状的效能水平要素等。

其中，国家人才内在竞争力要素反映了国家人才创新创业、作用发挥的核心竞争力。内在竞争力要素包括人才数量指标、人才质量指标等方面，这是区域潜在的、未来可能拥有的人才竞争能力。影响国家人才内在竞争力作用发挥的“外在竞争力要素”是外部因素，反映了国家人才创新创业的外部影响（工作、生活条件、人居环境等）因素，对核心竞争力起到正向（激扬、促进）或反向（压抑、制约）作用。外在竞争力要素包括人才投入指标、人才生活工作环境指标等方面，这是国家将潜在的人才竞争能力转化为现实以获得竞争优势的能力。表征人才竞争力现状的是人才产出水平，反映了国家所拥有的人才对其国民经济和社会发展的贡献和促进作用，这是国家现实的人才竞争能力。

（四）国家人才竞争力评价模型

1. 模型的选择

根据国家人才竞争力评价体系的结构，可以构建一般意义上的国家人才竞争力评价模型，即：

$$J_i = \sum B_k * Q_k$$

其中，J_i为不同国家的人才竞争力，B_k为一、二层级等各项指标（指数），Q_k为分别对应一、二级指标（指数）的权重。k 分别为第一、二层级的指标数。

本报告第一层级指标数 k 为 5（与人才竞争力评价体系的结构对应）；而第二层级的指标数则根据不同一级指标的不同特征确定。

2. 权重的确定

利用构建的评价指标体系对国家人才竞争力进行评价时，各指标的作用各不相同。为了体现不同指标在评价指标体系中的重要程度，要给每个指标赋予不同的权重系数。指标的权重是各指标相对重要程度的一种主观与客观度量的反映，合理的权重系数对国家人才竞争力评价具有重要的意义。

目前，评价指标权重的确定方法主要采用主客观相结合的专家集体决策方法，如德尔菲法、层次分析法、灰色关联分析法等。

层次分析法（AHP）是美国学者 T.L.Satty 等人在 20 世纪 70 年代提出的一种定性分析与定量分析相结合的多准则决策方法。该方法对各指标的重要程度的分析逻辑严密，且进行周密的数学处理，可信度较大，体现了主观分析与客观计算相结合的特点，因而被广泛应用到指标权重的确定上。

本研究报告在明确指标体系层级结构后，即采用层次分析法对区域人才竞争力评价指标体系中的指数权重加以确定。本研究组共邀请 13 位专家分别对一、二层次的指标（指数）进行两两比较与判断，并采用 1-13 的比例标度，将专家的定性判断定量化，由此构造出若干个两两比较判断矩阵。再对这些比较判断矩阵进行层次单排序，计算各自的权重系数（精确到小数点后两位数），并对之进行一致性检验。由于计算过程繁琐，占用篇幅过多，本研究报告计算权重的过程均不一一列出。

3. 数据处理的原则、方法

由于人才竞争力各项指标数据的量纲不同，因此，需要对这些指标进行综合集成，并且对指标数据进行无量纲处理。

本研究采用了最小—最大规范化的方法，在不改变数值差异的情况下，将数据标准化为[0,1]范围内。计算方法如下：

$$X_i = \frac{x_i - \min\limits_{1 \le i \le n} x_i}{\max\limits_{1 \le i \le n} x_i - \min\limits_{1 \le i \le n} x_i}$$

为保持指数整体的同向性（越大越好），对负向数据进行了同向性处理。处

理方法如下：

$$X_i = \frac{\max\limits_{1\le i\le n} x_i - x_i}{\max\limits_{1\le i\le n} x_i - \min\limits_{1\le i\le n} x_i}$$

其中，Xi 为标准化后的指数，xi 为原始值，i 为国家代码，n 取值范围为 Int[1,38]，代表 38 个国家。

附件 2 研究机构及课题组

国际人才组织联合会（AGTO）

国际人才组织联合会（Alliance of Global Talent Organizations, AGTO，以下简称“联合会”）是由全球化智库（CCG）和国际知名专家共同发起的国际组织。联合会于 2020 年 11 月在第三届巴黎和平论坛上举办了成立仪式。该论坛由法国总统马克龙于 2018 年发起，中国国家主席习近平 2020 年受邀以视频方式在论坛上发表演讲。

联合会旨在通过举办全球人才峰会、发布全球人才流动趋势研究报告等方式，推动全球人才交流合作，促进政策对话，推动全球达成关于国际人才交流合作、互利共赢的普遍共识。联合会致力于建设全球人才的对话、协调与合作机制，打造互联互通、资源聚集的合作平台，构建信息集成与数据共享的信息中心，从而为全球人才流动和合作提供具有创新性的公共产品。联合会重点汇聚国际知名的人才协会、高校、创业园区、跨国公司、研究机构及各国人才管理服务部门等与人才相关的组织。

课题组成员

王辉耀　苗　绿　郑金连　桂昭明　张　伟　赵占杰　曹　茜

王佳雨　张瑞时　陈　佳　李浩源　董思廷　林兆楠　张　可

本报告得到全球化智库（CCG）及相关领域专家学者的支持，在此特别感谢。由于撰写和编辑匆促，报告中难免出现纰漏。欢迎社会各界批评指正，以便我们在未来的研究工作中获得进益。

获取电子版请联系：zhengjinlian@ccg.org.cn.

2025 GLOBAL TALENT FLOW: TRENDS AND PROSPECTS 2025

ENGLISH VERSION

June 2025

AGTO
Alliance of Global Talent Organizations
國際人才組織聯合會

Contents

Introduction and Key Findings

Talent serves as a crucial asset for national rejuvenation and global competitiveness, playing a pivotal part in China's modernization efforts. Notwithstanding the growing complexity of the international landscape, the cross-border movement of talent has remained resilient. Conversely, the developmental impetus created by talent influxes has compelled nations to implement specific policy initiatives to draw the requisite human resources.

Initiated in 2022, the current report—initially presented at the 5th Hongqiao International Economic Forum—pursues the advancement of an open framework for talent mobility as its primary aim. It creates a succinct and impartial assessment approach to comprehensively examine the present condition and emerging trends of global talent mobility, contrasting the talent competitiveness of 38 key nations, as the countries covered by this evaluation account for 65% of the world's population and 89% of the world's total GDP, we claim that the evaluation gives a realistic overview of global talent competitiveness. The report analyzes the establishment of a global dialogue mechanism for talent cooperation, aims to foster cross-national exchanges and disseminate best practices to develop inclusive and effective governance solutions for global talent flows, thereby providing an international public good. Ultimately, it aims to establish a new global framework for talent governance founded on consultation, collaborative contribution, and mutual benefits, therefore improving equity, coordination, and inclusivity in talent mobility.

Key conclusions of the report:

1. The United States continues to be the leader in talent competition; nevertheless, the locus of talent is transitioning from Europe and North America to Asia

The report's composite index indicates that the United States ranks top in talent competitiveness, followed by the Republic of Korea, Sweden, Japan, China, Germany, Singapore, Belgium, and Switzerland. Of the top 10 economies, six are from Europe or North America, while four are from Asia, with three Asian nations positioned within the top five, indicating a progressive eastward shift in the global talent center. China

and the United States possess distinct advantages in terms of talent scale. The Republic of Korea, Canada, and Sweden rank as the top three nations in talent quality. Simultaneously, because the talent quality indicators emphasize performances on a per capita basis, rapidly developing economies with bigger labor forces, such as India, China, Indonesia, and Brazil, exhibit worse performances. The United States and China thrive in terms of talent environment, whereas the United States, Israel, and Sweden are at the forefront of talent input. Singapore occupies the top position in talent performance, closely followed by the Republic of Korea. Conversely, Chile, South Africa, and Indonesia have relative weakness in this category.

2. China exhibits significant strengths in talent scale and talent environment while demonstrating relatively potential for enhancement in other areas

Out of the five indicators, China scored the highest in talent scale, followed by talent environment, talent input, talent performance, and talent quality. China occupies the fifth position overall, behind the United States, the Republic of Korea, Sweden, and Japan, still falling short of its economic significance. However, it ranks first in the talent scale indicator and second in talent environment, highlighting accomplishments in both work-platform development and living conditions. China ranks 25th in talent performance, signifying potential in optimizing talent contributions and institutional improvement. China is positioned 28th in talent input—trailing the top decile but relatively closer to some other developing countries, demonstrating potential for growth in total expenditures. In talent quality, China ranks the 30th, which is indicative of the interplay between a substantial labor force denominator and an inadequate per capita supply of high-level talent.

3. Regional talent flows are increasing in magnitude and diversity in trajectory, influenced by geopolitical factors and economic progress

By April 2025, the global displaced population had attained 122.1 million, including a notable contingent of cross border migrating scientific and technology talents. Simultaneously, worldwide merchandise commerce expanded from $63 billion (US dollars) in 1950 to $33 trillion (US dollars) in 2024, hence increasing the demand for skilled professionals. According to United Nations data, the number of international migrants rose from 173 million in 2000 to 304 million in 2024, primarily migrating from developing to developed economies. The United States is the foremost destination,

receiving more than 52.4 million migrants, while India and China are the largest source countries, with 18.53 million and 11.70 million migrants, respectively. The Mexico-to-United States corridor is the largest migration route, while the India-to-United States and China-to-United States routes are the primary gateways for economic migrants. In terms of immigration structure, labor migrants are the mainstream, concentrated in high-income countries and emerging market service sectors. High-skilled technical immigrants have become the focal point of policy competition among countries. International students, sometimes termed "proto-talents," have tripled in number over the last two decades and are eagerly sought after by host countries.

4. The growth of the global digital economy is elevating the need for digital expertise

Accelerated innovation and profound integration of digital technology are transforming economic rivalry and occupational frameworks globally. The World Economic Forum indicates that the majority of the 20 fastest growing jobs projected for 2025–30 is digital technology related. The global digital economy is anticipated to expand from $38.1 trillion (US dollars) in 2021 to $53.9 trillion (US dollars) by 2025, representing almost 45 percent of global GDP. While automation may replace around 30 percent of existing jobs, it is anticipated to generate 130 million new roles, highlighting significant employment transformations within a new productivity framework.

5. Policy Recommendations for Systematic Global Talent Mobility

Firstly, measures should be taken to deepen the understanding of the value of talent mobility. The shared pursuit of a better life by countries has driven the cross-border and cross-sector movement of talent, continuously promoting the flow of immigrant talent, international students, and other groups, which helps enhance understanding, foster mutual trust, and support high-quality development. Secondly, promoting talent mobility through high-level openness is important. The free and comprehensive development of talent cannot be achieved without a more open global environment, and openness helps break down barriers to mobility and enhance mutual trust. Thirdly, expanding multi-level platforms for talent exchange and dialogue is also critical. A multi-level institutionalized international talent exchange mechanism should be built, and platforms such as the Global Talent Summit should be used to promote

policy coordination, resource sharing, and the achievement of global consensus, improving the fairness, coordination, and inclusiveness of talent mobility. Fourthly, countries and institutions should advance the diversification and digitalization of talent mobility governance platforms. Global talent mobility shows trends of regional diversification and cross-sector convergence, and governance platforms should emphasize fairness, diverse participation, unified rules, and digital means. Fifthly, a focus should be placed on building a data-driven global skills recognition and talent mobility governance system. A global skills observation mechanism should be established, mutual recognition of micro-certifications and academic qualifications should be promoted, and a digital certification system should be developed to provide institutional guarantees for the cross-regional and cross-sector mobility of global talents.

Chapter 1: The Talent Competitiveness Index for Major Countries

This part attempts to create a Talent Competitiveness Evaluation Index for Major Countries that is simple, predictable, and internationally transferable in order to evaluate the level of talent competitiveness in major countries and further analyze the strengths and weaknesses of China's talent competitiveness.

Building a Talent Competitiveness Evaluation Index for Major Countries

What Talent Competitiveness Means

Talent competitiveness evaluates a country's ability in attracting, cultivating, sustaining, and utilizing talent in the context of global socio-economic development and the subsequent talent flows that follow this phenomenon. 38 countries are covered by this evaluation, including China, the seven major industrialized countries (G7), and 19 countries from economic cooperation groups mainly corresponding to G20 members, excluding the EU and African Union due to overlapping membership with G7 and G20 countries. Aside from India, Indonesia and South Africa, the vast majority of countries in the sample have populations exceeding 10 million and per-capita GDP levels above $10,000. Countries with populations between 5 million and 10 million generally have per-capita GDP above $40,000. As the countries covered by this evaluation account for 65% of the world's population and 89% of the world's total GDP, we claim that the evaluation gives a realistic overview of global talent competitiveness.

Talent Competitiveness Evaluation Index for Major Countries

The Talent Competitiveness Evaluation Index for Major Countries uses data from

World Bank's World Development Indicators (WDI) database, the World Intellectual Property Organization WIPO Intellectual Property Statistics database, the ILO database of the United Nations International Labour Organization, the Fortune Magazine 2024 list of the top 500 companies in the world, and the 2025 QS World University Rankings Top 1000 list. Some data reflecting situations in individual countries are missing from these databases and will be supplemented by data from the statistical agencies of each government.

The Talent Competitiveness Evaluation Index for Major Countries covers five primary indicators of talent (scale, quality, environment, input, and performance) and 14 secondary indicators.

Scale indicators measure the absolute gap in the number of high-level talent resources in different countries, reflecting the absolute number of different types of high-level talent resources and reflecting the scale effect of talent. Talent scale indicators include two secondary indicators, namely, "Number of the working-age people with advanced education" (thousands) and "Number of researchers in R&D".

Quality indicators measure the relative quantity difference of high-level talent resources in different countries. Talent quality features two secondary indicators, namely, "Number of people with advanced education per million working-age people" and "Number of researchers in R&D per million positions".

Environment indicators measure the strengths and weaknesses of talent resources in different countries in terms of living, working, and learning environments, and serve as the main indicator of environmental gaps. Talent environment indicators include four secondary indicators, namely, "PM2.5 mean annual exposure (μg/m³)", "Fortune Global top 500 (proportion)", "QS top 1000 (percentage)" and "CO2 emissions per capita (t/person)".

Input indicators measure the strengths and weaknesses of different countries in terms of talent security and talent potential and are the main indicators of the momentum of talent competitiveness. Talent investment indicators include three secondary indicators, namely, "Share of public education expenditure in GDP (%)", "Share of research and development expenditure in GDP (%)" and "Current health expenditure in GDP (%)". Among them, "Share of public education expenditure in GDP (%)" reflects and measures the strength and level of financial expenditure on education in different countries to improve the overall quality of the nation and cultivate potential human resources, indicating the strategic level and policy support of the country in the

development of human resources. “Share of research and development expenditure in GDP (%)” reflects and measures the strength and level of financial R&D expenditure of different countries in encouraging innovation and creativity, demonstrated in the country’s policy support and strategic emphasis in attracting and keeping talent working in science and technology. “Current health expenditure in GDP (%)” reflects the country's total investment in healthcare with the goal of enhancing the physical health of the population and providing good healthcare services and social security for the talent pool.

Performance indicators measure the strengths and weaknesses of different countries in terms of talent use and talent output and are the main indicators of the effectiveness of talent development. Talent performance indicators include three secondary indicators, namely, “Labour productivity (GDP per employment)”, “Number of active patents per capita in the labour force (patents/10,000 working-age people)”, “Proportion of value added in medium and high-tech manufacturing to total manufacturing value added (%)”. “Labour productivity (GDP per employment)” reflects the contribution talent made to economic growth in different countries, while “Number of active patents per capita in the labour force (patents/10,000 working-age people)” reflects the contribution made by the talent pool in science and technology innovation as well as the strength and quality of talent innovation in different countries. “Proportion of value added in medium and high-tech manufacturing to total manufacturing value added (%)” reflects the use of talent resources and the extent of their role. The three secondary indicators directly measure the efficiency in applying talent in different countries and indirectly measure a country’s policy and environmental effects on talent.

The Talent Competitiveness Evaluation Index for Major Countries uses the Analytic Hierarchy Process (AHP) to determine the weighting of each secondary indicator.

Table 1.1 Design of the talent competitiveness evaluation index for major countries

Primary indicators	Primary indicator weighting	Secondary indicators	Code	Secondary indicator weighting	Data source
Talent Scale	0.160	Number of the working-age people with advanced education (per 1,000 people)	GM1	0.071	ILO/WDI
		Number of researchers in R&D (people)	GM2	0.089	WDI
Talent Quality	0.224	Number of people with advanced education per million working-age people (people/million working-age people)	ZL1	0.110	ILO/WDI
		Number of researchers in R&D per million positions (people/million positions)	ZL2	0.114	WDI
Talent Environment	0.207	PM2.5 mean annual exposure (μg/m³)	HJ1	0.025	WDI
		Fortune Global top 500 (proportion)	HJ2	0.075	Fortune
		QS top 1000 (percentage)	HJ3	0.072	QS
		CO2 emissions per capita (t/person)	HJ4	0.035	WDI
Talent Input	0.184	Share of public education expenditure in GDP (%)	TR1	0.062	WDI
		Share of research and development expenditure in GDP (%)	TR2	0.060	WDI
		Current health expenditure in GDP (%)	TR3	0.062	WDI
Talent Performance	0.225	Labour productivity (GDP/ Employment)	XN1	0.092	WDI
		Number of active patents per capita in the labour force (patents/10,000 working-age people)	XN2	0.050	WIPO/WDI
		Proportion of value added in medium and high-tech	XN3	0.083	WDI

		manufacturing to total manufacturing value added (%)			

（Continued Table 1.1） Note: “WDI” refers to the World Bank WDI database (2025), “WIPO” refers to the World Intellectual Property Organization database WIPO (2025), “ILO” refers to the United Nations ILO database (2025), “Fortune” refers to the complete list of Fortune Magazine 2024 World 500 companies, and “QS” refers to the 2025 QS World University Rankings Top 1000 list.

Evaluation of Talent Competitiveness for Major Countries

Based on a systematic calculation of relevant data, we positioned and ranked the 38 countries covered in the report according to their talent competitiveness levels in 2025, including comparisons of the five primary indicators, namely, scale, quality, environment, input, and performance.

Taken together, the index reveals that the United States takes the lead in talent competitiveness, followed by the Republic of Korea in second place, Sweden in third place, Japan in fourth place, and China in fifth place. Germany, Singapore, Belgium, and Switzerland take the places from sixth to nineth respectively. Among the top ten, there are six Western countries and four Asian countries. Asian countries also take up three of the top five ranks.

The countries that are ranked from 10th to 19th are Denmark, Israel, France, the UK, Finland, Canada, the Netherlands, Ireland, Austria, and Norway. Those that are ranked between 20th and 29th place are Australia, Spain, New Zealand, Portugal, Czechia, Italy, Greece, Poland, Russia, and Brazil. Finally, Türkiye, Saudi Arabia, Malaysia, Chile, India, Argentina, Mexico, South Africa, and Indonesia are ranked from the 30th to 38th. It is noticeable that for countries that are ranked between third and twentieth place, the difference in their index score is relatively small. Another point that stands out is that the talent competitiveness index for the US, which ranks first, is 3.5 times that of Indonesia in the last place (see figure 1.1).

Compared to the index ranking of 2022, certain countries, mostly European nations, stand out due to the relatively large changes in their respective rankings. Causes of these changes include the US’s implementation of “American First” policies that to some extent restricted academic freedom in the country, resulting in many high-quality

research talents migrating to Europe. Some Northern European and Western European countries such as Sweden, Germany, and Belgium, increased their investment in R&D and facilitated green industry transformation, successfully increasing their competitiveness in attracting local and global talents. Denmark's ranking decreased due to the country's increase in defense expenditures, elimination of carbon taxes, and the controversies surrounding education reforms. The United Kingdom, largely affected by the aftermaths of "Brexit", saw decreases in research cooperations with the European Union, leading to its fall in the talent competitiveness ranking. In Central Europe, both Czechia and Türkiye have significantly improved their research and education sectors by steadily increasing investment in R&D and gradually raising public education spending. In addition, Türkiye has established multiple new higher education institutions, further enhancing its capacity for research and talent development. These efforts have collectively strengthened both countries' appeal to skilled professionals. On the other hand, Russia, due to external conflicts posing as an obstacle to international cooperation, experienced a drain and outflow in talent from the country, leading to a drop in the talent competitiveness ranking.

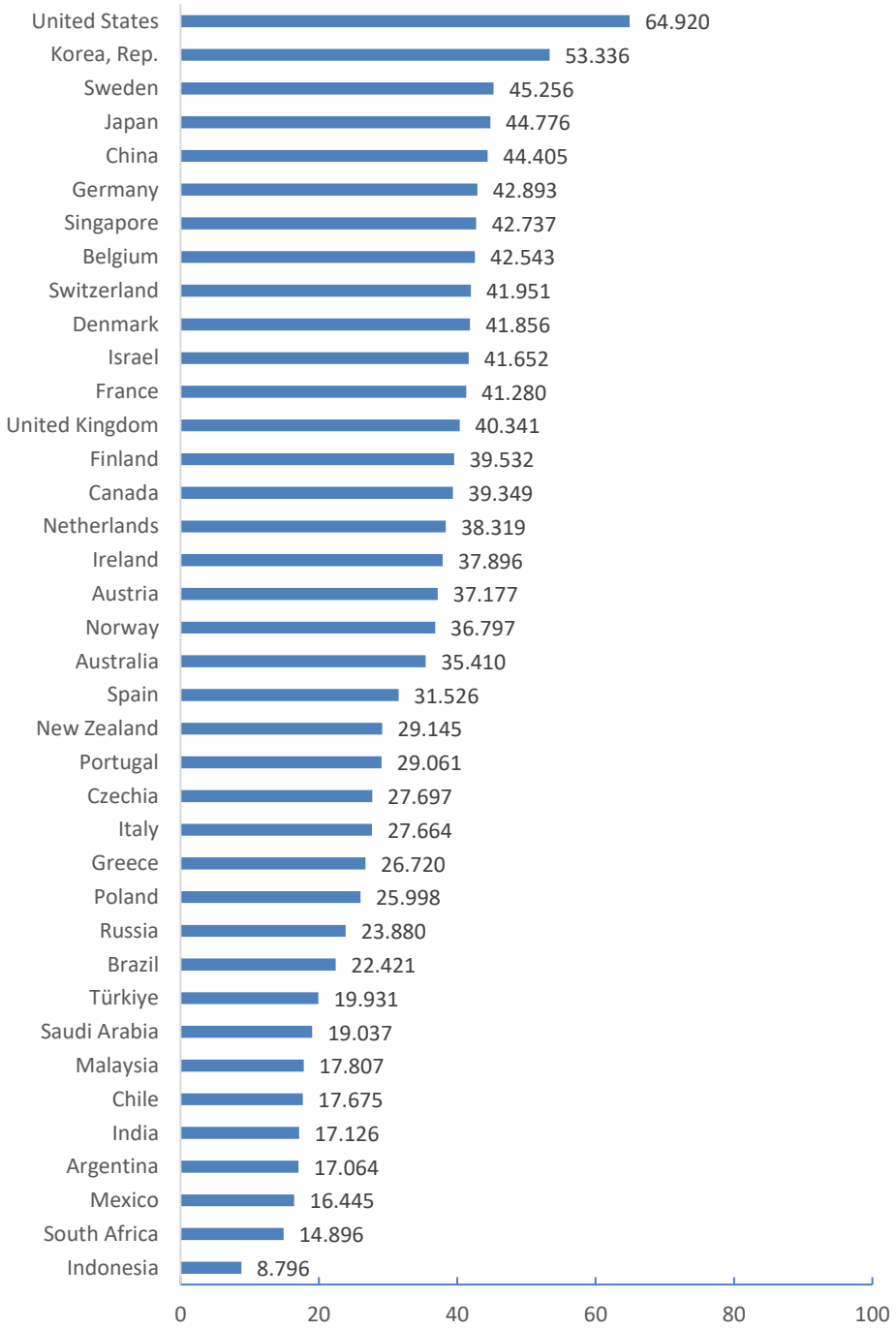

Figure 1.1 Rankings for 38 countries in terms of overall talent competitiveness (on a 100-point scale)

In terms of talent scale, China and the United States have a clear competitive edge. When considering the "Number of the working-age people with advanced education" and "Number of researchers in R&D", China and the United States are far ahead of India, Japan, and the Republic of Korea, which rank third, fourth, and fifth, respectively,

indicating the two country's evident lead in talent scale statistics (see figure 1.2).

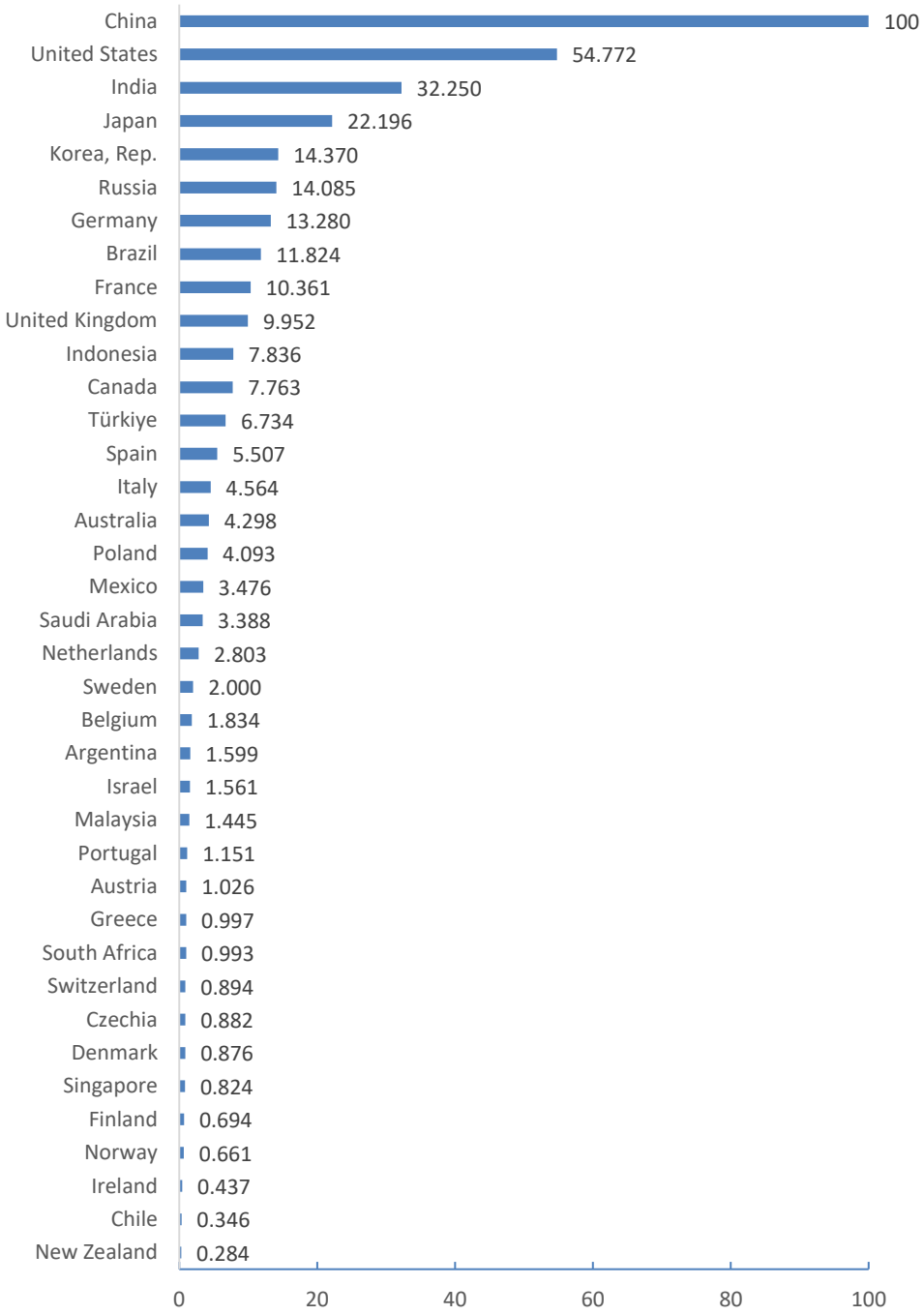

Figure 1.2 Talent scale rankings for 38 countries (on a 100-point scale)

The Republic of Korea, Canada, and Sweden are the top three countries in terms of talent quality. The Republic of Korea ranks first in terms of "Number of people with advanced education per million working-age people" and the "Number of researchers in R&D per million positions", followed by Canada, Sweden, Denmark, Singapore, Norway, Belgium, and Finland. Since this indicator focuses on employment per capita,

developing countries such as India, China, Indonesia, and South Africa, which have larger populations, have a temporary disadvantage in terms of talent quality (figure 1.3).

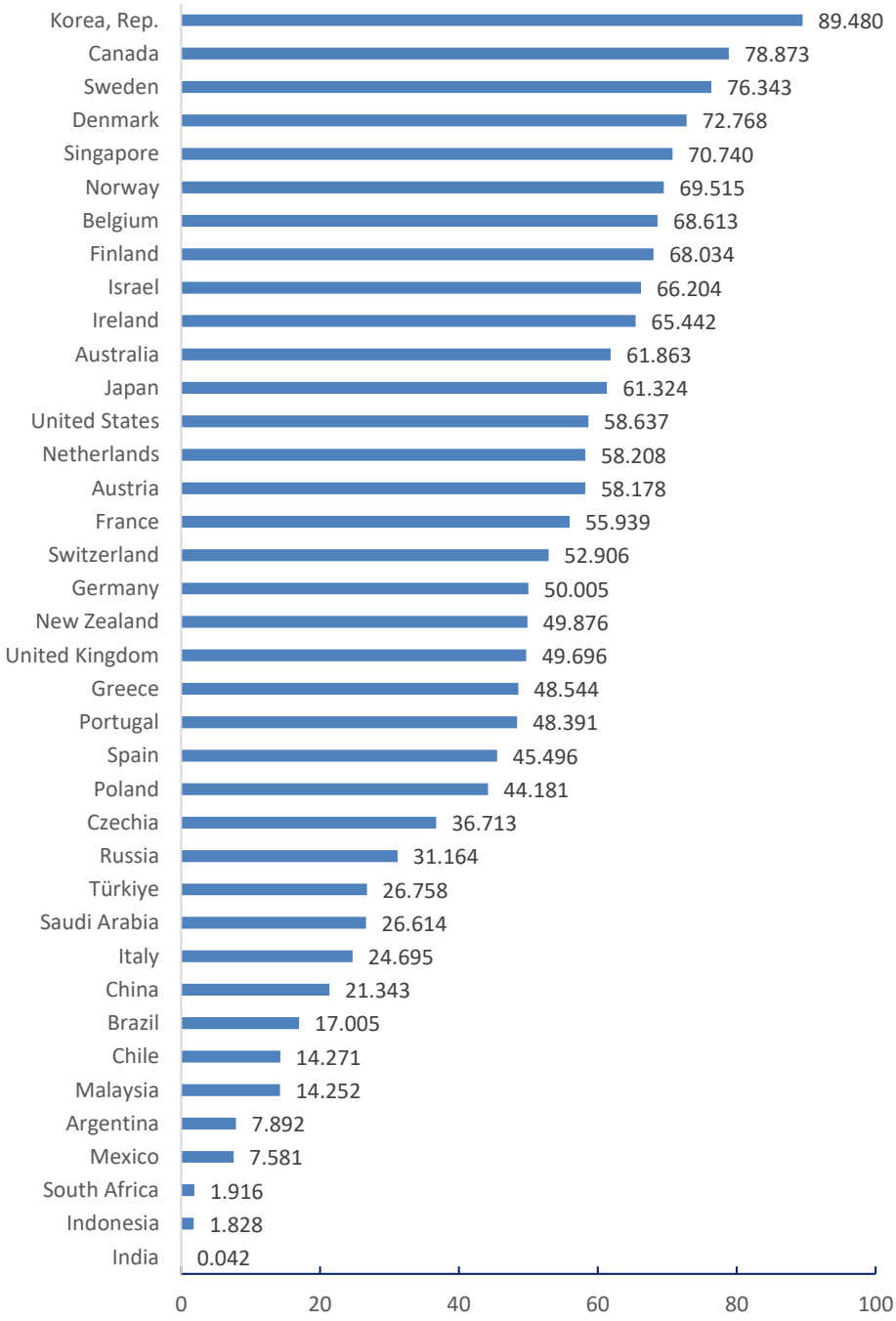

Figure 1.3 Talent quality rankings for 38 countries (on a 100-point scale)

In terms of talent environment, the United States and China have a clear advantage. The US ranks first in "PM2.5 mean annual exposure (μg/m³)", "Fortune Global top 500 (proportion)", "QS top 1000 (percentage)" and "CO2 emissions per capita (t/person)",

followed by China. The UK, France, Germany, Japan, Spain, Italy, and Switzerland are ranked from 3rd to 9th. Brazil, Sweden, the Netherlands, Portugal, Australia, Mexico, Indonesia, Finland, Denmark, and Canada are ranked from 10th to 19th. Ireland, New Zealand, Argentina, Belgium, Austria, Malaysia, the Republic of Korea, Greece and Norway are ranked from 20th to 29th. Türkiye, Chile, Israel, South Africa, Czechia, Poland, Singapore, Russia, and Saudi Arabia are ranked from 30th to 38th (see figure 1.4).

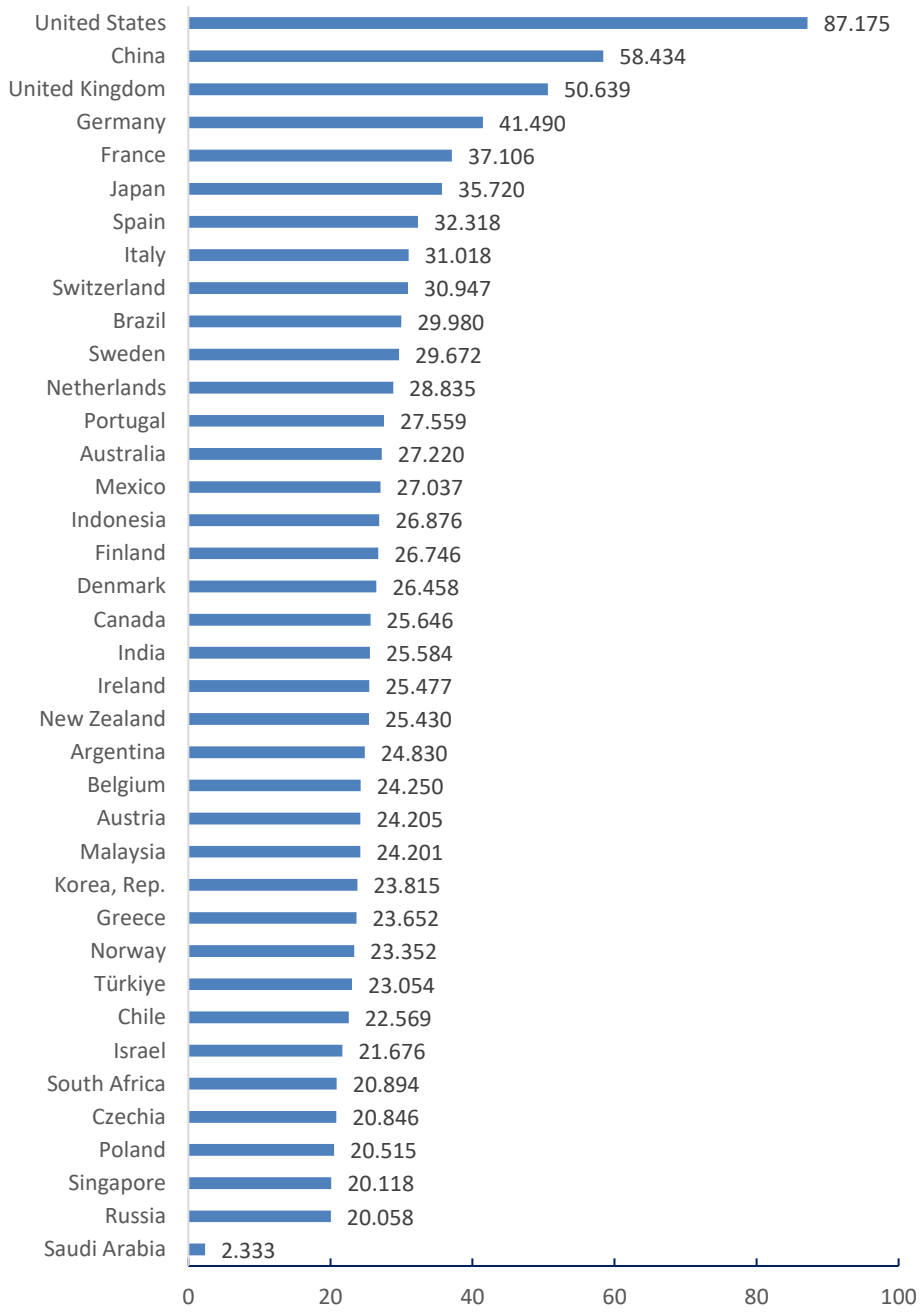

Figure 1.4 Talent environment index rankings for 38 countries (on a 100-point scale)

The US and Israel take the top two spots in terms of talent input. The three indicators, “Share of public education expenditure in GDP (%)”, “Share of research and development expenditure in GDP (%)” and “Current health expenditure in GDP (%)”, represent the total investment in education, research and development and health care relative to GDP. The US and Israel have the highest scores, followed by Sweden, Belgium, the Republic of Korea, Switzerland, Germany, Finland, and Austria. France, the UK, Denmark, Japan, the Netherlands, Australia, New Zealand, Portugal, Canada, and South Africa rank between 10th and 19th. Brazil, Czechia, Chile, Spain, Argentina, Greece, Italy, Norway, China, and Saudi Arabia rank from 20th to 29th. The data suggest that while there remains a wide gap between China and the top ten nations, the country shows a large potential for future increases in total investments, placing itself relatively well among other developed countries (see figure 1.5).

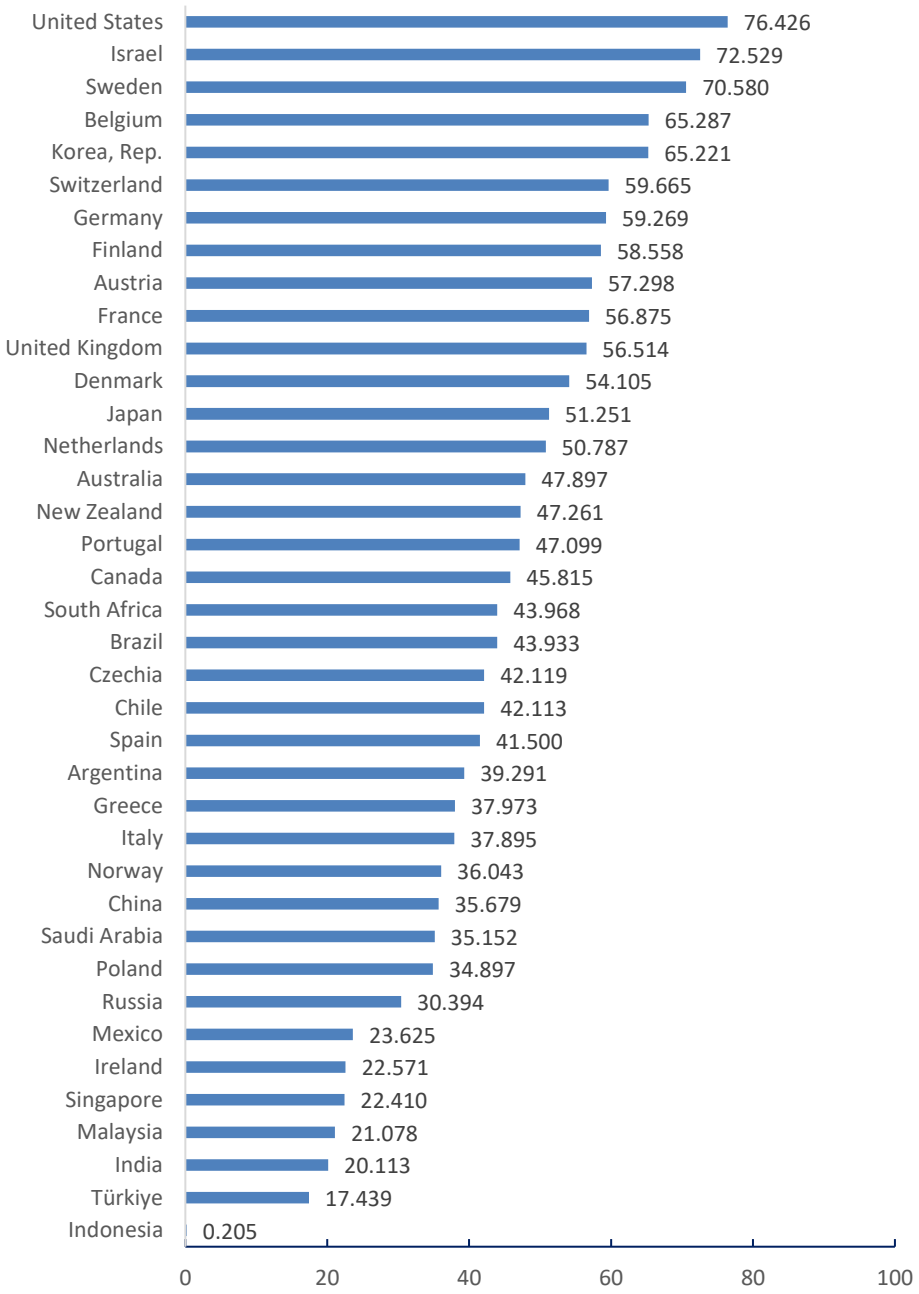

Figure 1.5 Talent input index rankings for 38 countries (on a 100-point scale)

In terms of talent performance, Singapore ranks far above all other countries in three indicators including “Labour productivity (GDP/ Employment)”, “Number of active patents per capita in the labour force”, and “Proportion of value added in medium and high-tech manufacturing to total manufacturing value added (%)”. Following Singapore are the Republic of Korea, Ireland, Switzerland, and the US. Japan, Germany, and Denmark also exhibit a strong performance. On the contrary, Chile, South Africa, and Indonesia demonstrated a relative weakness (see figure 1.6).

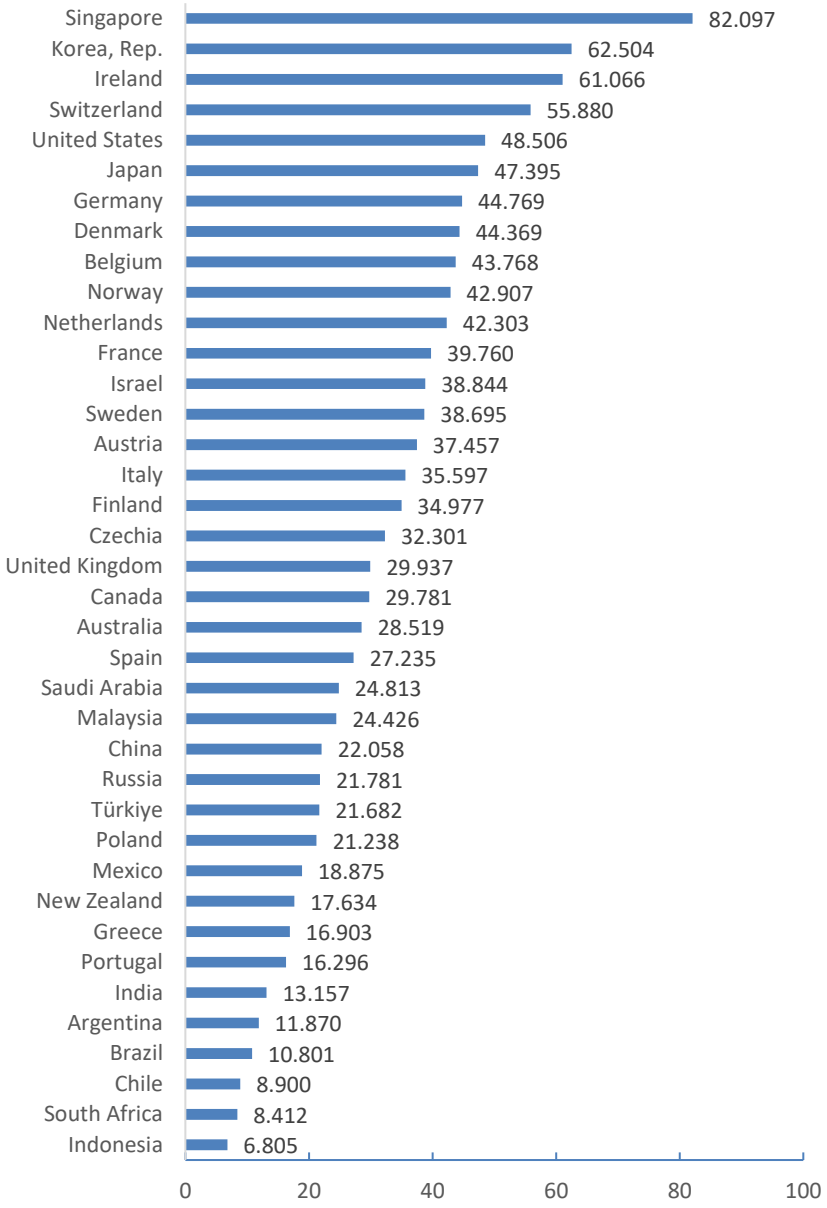

Figure 1.6 Talent performance index rankings for 38 countries (on a 100-point scale)

China's Talent Competitiveness

In looking at China's scores for all five indicators, we find that China has the highest score in terms of scale (100), followed by environment with 58.434 points, followed by input (35.679 points), performance (22.058 points), and quality (21.343 points).

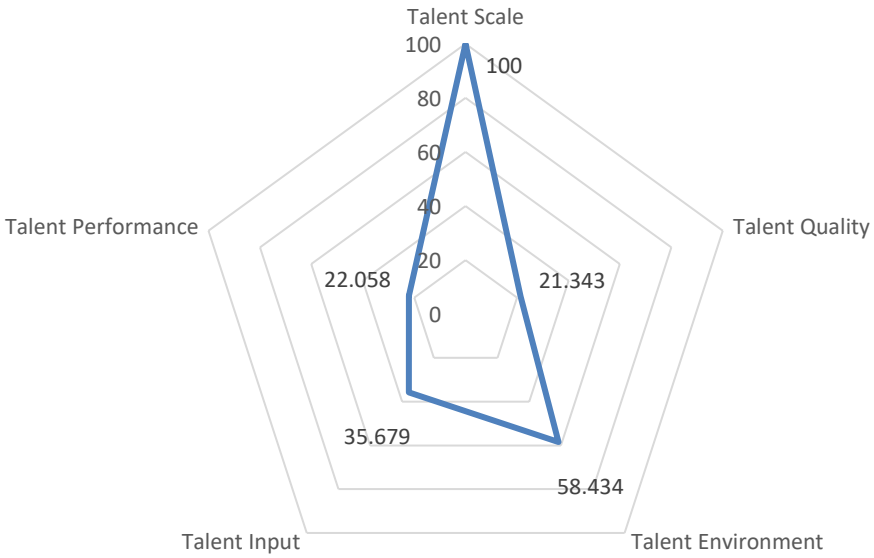

Figure 1.7 China's talent competitiveness index scores by indicators (on a 100-point scale)

In terms of the overall talent competitiveness index, we find that China ranked the fifth, behind United States, the Republic of Korea, Sweden, and Japan, although this position does not yet align with the country's economic scale and international standing, the trend is upward. The recent improvement can be attributed to a series of more proactive, open, and efficient talent policies, which have simultaneously optimized domestic training and deployment mechanisms and strengthened China's appeal to high-caliber professionals from abroad. For example, the Outline of the 14th Five-Year Plan for National Economic and Social Development and the Long-Range Objectives through 2035 (promulgated in 2021) explicitly calls for "exploring the establishment of a skill-based immigration system." In 2024, the Third Plenary Session of the 20th CPC Central Committee further stated that China would "improve support mechanisms for attracting overseas talent, build a globally competitive talent system, and explore the establishment of a high-technology talent immigration regime."

As domestic talent policies have been refined and exit-entry facilitation deepened, both talent inflows and return migration have accelerated. According to Ministry of Education statistics, between 1978 and 2019, approximately 4.23 million Chinese students—86.28 percent of all graduates—returned to China after completing their studies abroad; in 2019 alone, 580,300 returnees were recorded. In 2020, the number of students returning exceeded that of those leaving for overseas study for the first time,

and in 2021, the total surpassed one million. Although the pace of return slowed somewhat in 2023, the overall upward trend persisted.

A 2024 report by Stanford University's Center on China's Economy and Institutions documents similar dynamics among ethnic Chinese scientists. The study finds that, since 2018, the number of ethnic Chinese scientists departing the United States has increased by 75 percent, with two-thirds relocating to China. The absolute number has risen from 900 in 2010 to 2,621 in 2021, with the majority choosing to take up positions in China.

In terms of talent scale, China and the United States both display notable competitive strengths; nevertheless, the data indicates that China outperforms the United States by a considerable margin.

According to the Plan for Building an Educational Power Construction (2024 – 2035) issued in 2025, China has placed renewed emphasis on higher-education expansion and sustained investment in human capital formation. Nevertheless, in the Talent Quality Indicator, China currently ranks 30th, indicating short-term pressure. Both second-tier indicators—the number of people with advanced education per million working-age people and the number of researchers in R&D per million positions —are calculated on a per-capita basis. China's extensive labour and employment denominators depress its composite talent-quality score. It is worth noting, however, that China is exhibiting a pronounced upward trajectory in the first of these two sub-indicators (Number of people with advanced education per million working-age people), suggesting catch-up dynamics driven by the country's strategic commitment to expanding higher education and enhancing talent development.

In terms of the talent environment indicator, China ranks second among all countries, which indicates the country's sustained efforts to optimize the working and living conditions for skilled talents, notably by building dedicated talent-development platforms and by achieving significant improvements in ecological quality. As early as October 2013, President Xi Jinping emphasized at the 100th anniversary of the establishment of the Western Returned Scholars Association saying that "If the [talent] environment is good, the pool of talent will build and careers will flourish; otherwise, people will scatter, and careers will fail. We should improve the operations, enhance services, strengthen education and guidance, build innovative platforms, and get better at discovering, consolidating, and utilizing talent, creating a good environment for students [seeking education abroad] to return and work in their homeland.". In the

recent decade, China has developed a comprehensive, systematized framework for enhancing the talent-development environment—one that extends from national-level strategy to local-level practice.

In the talent input Indicator, China ranks 28th among all countries. The data indicate a noticeable gap between China and leading countries such as the United States and Sweden in relative input intensity. However, the distance from other advanced economies is comparatively modest. In absolute terms, China shows significant growth potential. The Central Conference on Talent Work, held in September 2021, underscored the need to increase investment in talent development and to enhance the efficiency of that investment—thereby laying a policy foundation for further potential gains.

In terms of the talent performance indicator, China ranks 25th. China's talent performance indicator is roughly one-quarter that of Singapore, suggesting room for improvement in fully leveraging human capital and advancing institutional reform. Nonetheless, incremental progress has been recorded. Following the 20th National Congress of the Communist Party of China, President Xi Jinping emphasized that developing "new-quality productive forces" is both an intrinsic requirement and a key lever for high-quality growth. He called for fostering a virtuous cycle among education, science, technology, and talent and for refining mechanisms governing talent cultivation, attraction, utilization, and rational mobility.

Chapter 2: The Present Status and Trends in Global Talent Flow

Concepts of Global Talent Flow

Talent

China's National Program for Medium- and Long-term Talent Development (2010 to 2020) defines *talent* as "a person who has certain professional knowledge or skills, who performs creative work and contributes to the society, creating value for the society, and those who are relatively high quality in the labour force considered by metrics of human resources." In the Contemporary Chinese Dictionary, talent is defined as "a person who possesses both integrity and ability; a person who has certain specialties."

In other countries, concepts closer to the meaning of what talent means in China are human capital and human resources. In the 19th century, some scholars categorized human capital as a crucial component of national competitiveness. German economist Friedrich List emphasized the importance of incentive mechanisms and tapping intellectual resources i.e., human capital in his interpretation of the mental power level within the three levels of national productivity. In 1954, Peter F. Drucker first coined the term "human resources" in his book The Practice of Management, arguing that the first sign of decline in an industry is the loss of appeal to qualified, able, and ambitious people.[①]

This report defines *talent* as a person who possesses specific knowledge and capabilities and who can contribute to society.

Talent Flow

Talent flow can mean the movement of talent in physical spaces or among industries and occupations.[②] In this report, *talent flow* focuses on the movement of talent

① Huiyao, Wang. International Talent Competition Strategy [M]. Beijing: Party Building Readers Publishing House, 2014:5.
② Wang Huiyao, Miao Lu, Zheng Jinlian. Introduction to International Talent Studies [M]. Beijing: China

across countries and regions. In the chapter "A Cross-Disciplinary Perspective on Trends in Global Talent Flows", it also covers talent moving between industries and occupations. Many factors contribute to the flowing of talent, mostly the knowledge economy, globalization, differences in demographic structures, and policy on human resources by different governments. Talent flow in physical spaces, as defined by this report, includes three patterns: talent outflow or inflow (unilateral), talent return (bilateral), and talent circulation (multilateral).

Talent outflow is a moving pattern defined from the perspective of talent-exporting countries, i.e., the movement of talent from one country to another. For talent-importing countries, this can be interpreted as *talent inflow,* but whether it is "outflow" or "inflow", talent flow indicates unilaterality.

The process of talent flowing from country A to country B and back to country A is called *talent return*. In the case of *talent return*, talent flowing out from country A may have acquired knowledge in frontier technologies or management skills after studying or working in country B. When these individuals return to country A, they bring back knowledge obtained in country B such as cutting-edge technologies, different thought processes, management skills, etc.

Talent circulation is the circular flow of talent between an outflow country, an inflow country and a third country. In the process of talent circulation, talent circulates between countries A, B, and C, so that the three countries are no longer simply exporting or importing talent unilaterally but can do both. In terms of physical space in this context, talent circulation covers two or more countries; as for the frequency an individual changes location, they are no longer limited to moving permanently and may move multiple times during their career. In terms of the utility of the flow, talent circulation is not a zero-sum game, but a win-win situation in which all sides can benefit. [①] Talent circulation promotes the exchange of resources, capital, and technology for mutual benefit, boosting the socio-economic development of all countries involved.

Personnel Press, 2020: 24.

① Hongliang, Du. Qiqige, Wuyun. Making China an Important Pole in the Global Talent Circulation [EB/OL]. (2012-04-27) [2022-10-07]. http://www.kjw.cc/2012/04/27/29930.html.

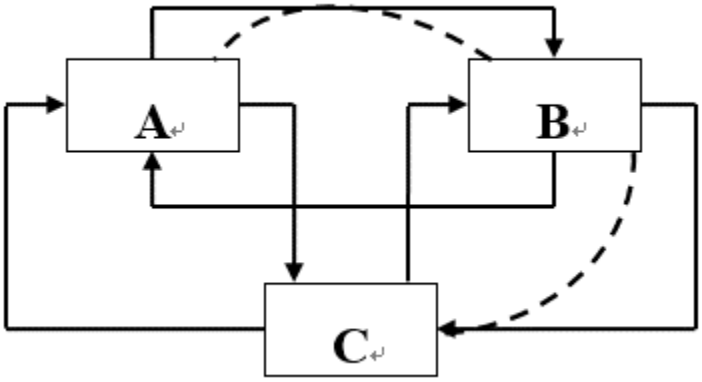

Figure 2.1 Talent circulation

Source: Yi, Wang. Towards A Global Talent Hub: Its Concept and Development Strategy [J]. Scientific Development. 2013 (02): 89-99.

The Current Status of Global Talent Flows across Regions

The definition of "talent" varies from country to country, and there is no universally accepted standard for monitoring the flow of talent around the world. This report carries out a preliminary analysis of the current state of inter-regional talent flows by tracking the flow trends among international migrants,[①] especially work-based international migrants and international students, from 2000 to 2024.

① The "Recommendations on Statistics of International Migration" officially published by the United Nations Bureau of Economic and Social Affairs in 1998 defines an 'international migrant' as anyone who changes their Country of Usual Residence (excluding those who leave for short periods for recreation, vacation, business, medical or religious reasons). It divides "international migrants" into "Short-term Migrants" and "Long-term Migrants". "Short-term Migration" refers to moving to another country other than the country of origin for at least 3 months and less than one year (12 months); "Long-term Migration" refers to moving to a country other than the country of origin for at least one year (12 months), with the country of destination becoming the de facto new country of permanent residence. In terms of the emigration country, a "Long-term Migrant" is equivalent to a "Long-term Emigrant". In terms of the countries of immigration, a "Long-term Migrant" is equivalent to a "Long-term Immigrant".
The International Organization for Migration (IOM) defines an "international migrant" as a person who leaves his or her country of origin or previous country of residence, crosses national borders, and lives permanently or for a certain period of time in another country for the purpose of settlement. At the same time, special emphasis is placed on the relationship between "international migration" and "social development". "When talking about migration and development, the 'migrants' are those who are not forced by any external factors and make their own choices to migrate, excluding refugees, exiles or diasporas." In this report, the definitions and data of international migration provided by the United Nations Economic and Social Affairs Statistics Bureau and the International Organization for Migration are basically the same.
The form and purpose of transnational migration of international migrants can be divided into work-based international migrants, investment-based international migrants, reunion-based international migrants, learning-based international immigrants, crisis migrants, illegal migrants, and other categories. This report mainly involves work-based international migrant and learning-based migrant (i.e., international students).

Status of Global Talent and International Migration Flows ①

1. The Influencing Factors of Global Talent Flows

Under the complex international landscape, the uncertainty of global affairs has accelerated the development of global talent flows. As of April 2025, the number of forcibly displaced people worldwide has reached 122.1 million②, among whom a significant number are science and technology professionals relocating across borders. At the same time, global economic growth continues to drive demand for skilled talent. Despite geopolitical conflicts, economic globalization has shown remarkable resilience. The total value of global trade has increased from $63 billion in 1950 to $33 trillion③ in 2024—an over 500-times increase—demonstrating the prevailing trend of cooperation and development.

In this context, the strategic importance of talent—as a core element of innovation—has risen significantly, playing a crucial role in driving economic recovery, fostering innovation, and addressing future challenges. For example, during Singapore's economic boom in the 1990s, foreign migrants contributed to 40% of GDP growth. In 2021, Germany admitted 532,000 long-term migrants, with foreign scholars making up 52% of research positions at the Max Planck Society. In the United States, immigrants founded 43% of Fortune 500 companies, and in 2023 alone, the country issued 1.17 million green cards, highlighting its strong pull for global talent.④

① Unless otherwise stated, the source of data in this part are all from IOM's World Migration Report (2022).
② UNHCR China. (2025, June 12). War drives displaced population to highest in a decade. Retrieved June 20, 2025, from https://www.unhcr.org/cn/19599-%e6%88%98%e4%ba%89%e8%87%b4%e6%b5%81%e7%a6%bb%e5%a4%b1%e6%89%80%e4%ba%ba%e6%95%b0%e5%88%9b%e5%8d%81%e5%b9%b4%e6%96%b0%e9%ab%98.html.
③ UNCTAD. (2025, March). Global trade hits record high of USD 33 trillion in 2024. Retrieved from https://tradeinservices.mofcom.gov.cn/article/news/gjxw/202503/173871.html.
④ Wang, H., Miao, L., & Zheng, J. (2024). Improving support mechanisms for attracting overseas talent to empower the development of new quality productive forces. Think Tank Theory and Practice, 9(05), 24–30.

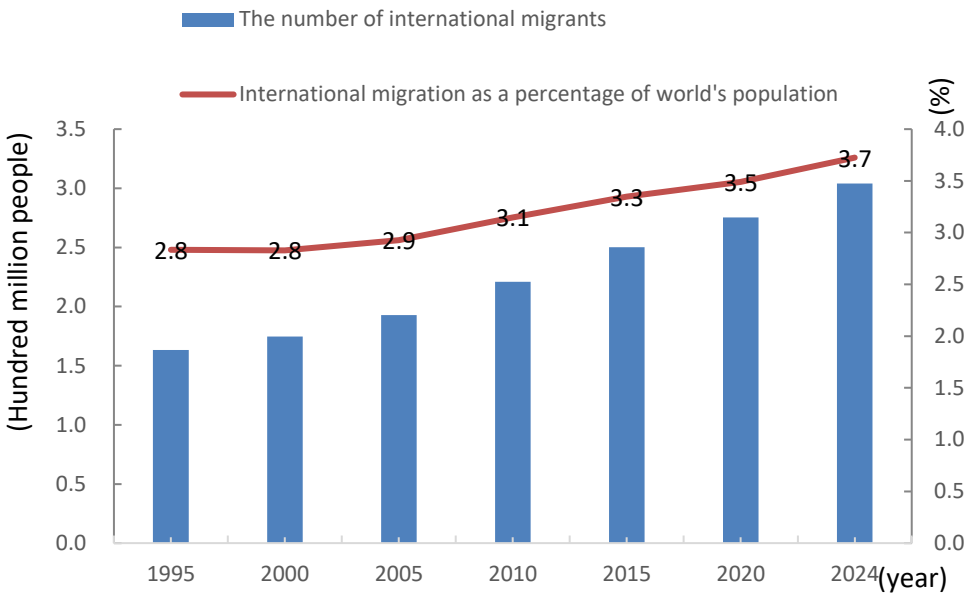

Figure 2.2 Number and percentage of international migrants, 1995-2024

Sources：UNDESA: International migrant stock 2024.Accessed June 5, 2024.

2. Global Patterns and Trends in International Migration Flows

In terms of total volume, the number of international migrants continues to grow, with migration primarily flowing from developing countries such as India and Mexico to developed countries like the United States and Germany. In 2024, there were nearly 304 million international migrants worldwide. The United States ranked first, hosting 52.4 million migrants, with the main countries of origin being Mexico (10.85 million), India (2.72 million), and China (2.18 million). Germany received 16.8 million migrants, and Saudi Arabia followed with 13.7 million, ranking second and third respectively. India was the largest country of origin for migrants, with 18.53 million emigrants, followed closely by China (11.7 million) and Mexico (11.6 million).[①]

From a structural perspective, labour migrants constitute the main body of international flows, with significant regional distribution and gender differences, and high-skilled migrants are widely welcomed. First, labour migrants primarily move to wealthy countries. In 2019, 169 million labour migrants accounted for 62%② of the total international migrants. Three major regions—Northern/Western Europe (41 million), North America (37 million), and Arab countries (24 million)—together accounted for 60% of the global labour migrant population. Second, social and cultural

① UNDESA: International migrant stock 2024.Accessed June 5, 2024.
② ILO. ILO Global Estimates on International Migrant Workers Results and Methodology, 2021.

factors greatly influence gender disparities. In Arab countries, labour migrants make up 41.4% of the labour market, with a pronounced gender imbalance (19.9 million males vs. 4.2 million females). Similarly, South Asia shows gender imbalance, with 5.7 million male labour migrants compared to only 1.4 million female migrants, reflecting the combined effects of traditional gender roles, labour market demand structures, and socio-cultural factors. Third, high-skilled talent has become the focus of migration policy preferences worldwide. Although 66.2% of migrants globally work in basic service sectors, competition for high-skilled workers is intense. The United States' Employment-Based Preference visas, aimed at attracting high-skilled labour migrants, increased from 28,538 issued in 2019 to 46,508 post-pandemics. [①]The EU Blue Card—a legal work and residence permit for high-skilled non-EU nationals—issued 82,000 cards in 2022, with Germany accounting for 77%. Indian nationals received 20,000 EU Blue Cards (24%), followed by Russia (8,000) and Turkey (5,000) as the second and third largest recipients.

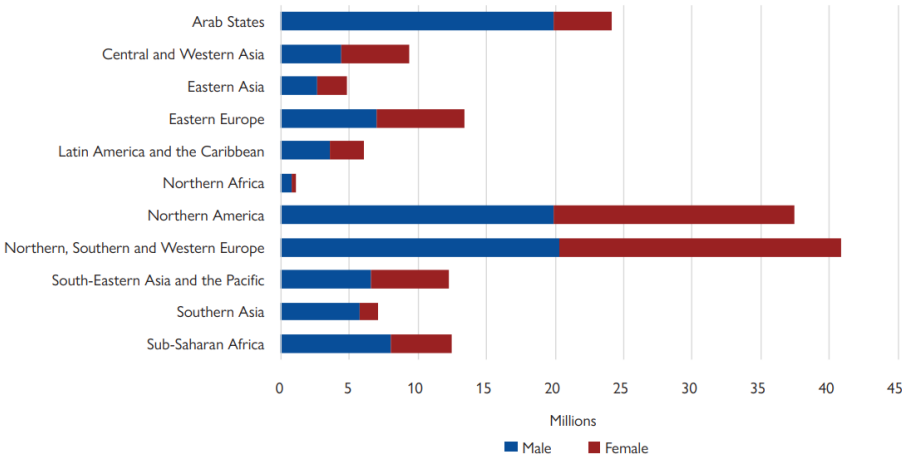

Figure 2.3 Geographic Distribution of Labour Migrants by Gender in 2024.
Source: IOM. World Migration Report 2024.

Global Patterns and Trends of International Student Flows[②]

1. The number of international students has continued to grow, though the pace

① https://travel.state.gov/content/dam/visas/Statistics/AnnualReports/FY2023AnnualReport/FY2023_AR_TableI.pdf .

② This section is primarily based on: Western Returned Scholars Association (WRSA) & Center for China and Globalization (CCG). (2024–2025) Report on the Development of Chinese Overseas Study. Beijing: Social Sciences Academic Press.
Chinese Service Center for Scholarly Exchange (CSCSE). (2025) Blue Book on Chinese Overseas Study. Beijing: China Yanshi Press.

has slowed since 2020

The number of international students in global higher education rose from 2.11 million in 2000 to 6.86 million in 2022—an increase of more than twofold. However, since 2019, factors such as the global pandemic and economic adjustments have led to a noticeable slowdown in growth. While the overall number of international students has continued to rise, the average annual growth rate between 2020 and 2022 was 4.1%, significantly lower than the 6.7% recorded in 2019 and below the overall growth rate of the global higher education student population.

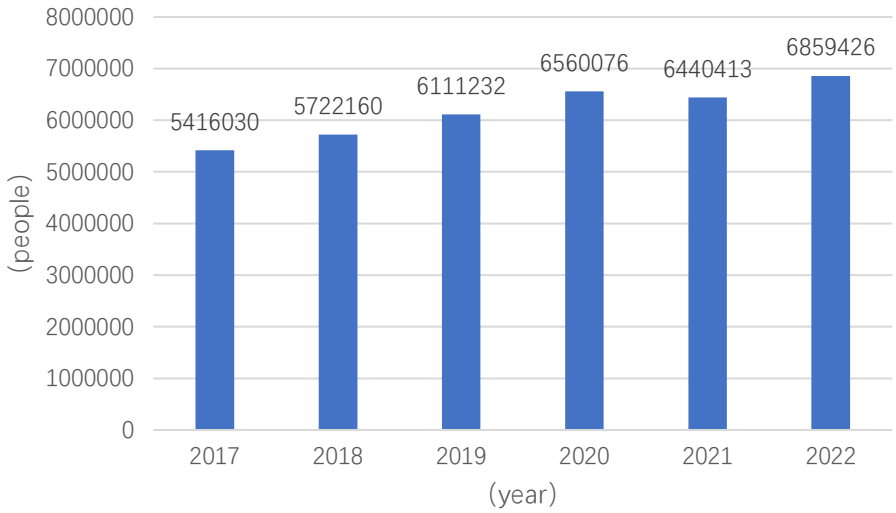

Figure 2.4 Global Number of International Students, 2017–2022

Source: UNESCO. Number and rates of international mobile students [EB/OL]. [2025-02-15]. http://data.uis.unesco.org/#.

2. International students mainly flow from developing countries such as China and India to major education destinations like the United States and the United Kingdom

International students primarily come from middle-income countries or regions. From 2018 to 2022, students from these areas consistently accounted for over 60% of the total international student population, with a slow upward trend. Among them, China and India are the top two source countries for international students globally. In 2022, approximately 1.052 million Chinese and 622,000 Indian students were enrolled in higher education institutions abroad, representing 15.3% and 9.1% of the global international student population, respectively.

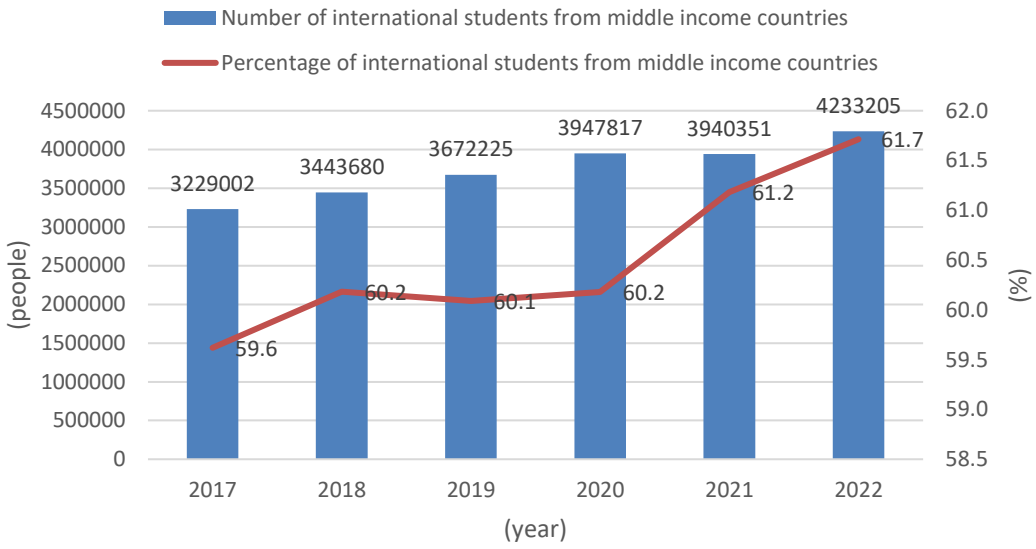

Figure 2.5 Number and Proportion of International Students from Middle-Income Countries or Regions, 2017–2022

Source: UNESCO. Number and rates of international mobile students [EB/OL]. [2025-02-15]. http://data.uis.unesco.org/#.

International students predominantly choose high-income countries or regions as their study destinations. Since 2017, more than 75% of international students have been enrolled in higher education institutions in high-income countries, though this proportion has shown a gradual decline—from 79.1% in 2018 to 75.8% in 2022. Among these destinations, the United States and the United Kingdom consistently rank as the top two. In 2022, the U.S. hosted approximately 949,000 international students and the U.K. hosted 675,000, accounting for 13.8% and 9.8% of the global international student population, respectively.

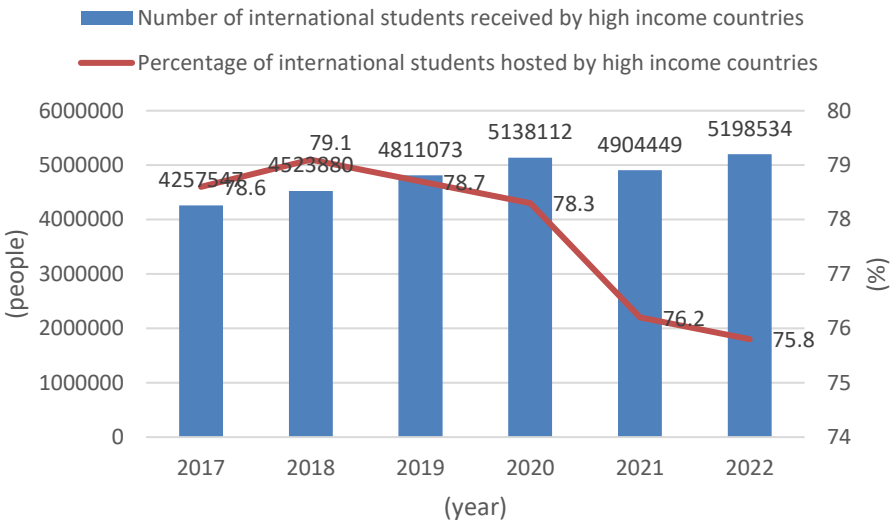

Figure 2.6 Number and Proportion of International Students Hosted by High-Income Countries or Regions, 2017–2022

Source: UNESCO. Number and rates of international mobile students [EB/OL]. [2025-02-15]. http://data.uis.unesco.org/#.

3. International students tend to favor STEM fields, with a relatively high proportion enrolled at the graduate level

Regarding field of study, international students and domestic students in OECD countries show significant differences in their choices. On average, over 30% of international students tend to choose STEM majors, compared to only 19% of domestic students in OECD countries. In terms of education level, international students in OECD countries are significantly more concentrated at the graduate level than at the undergraduate level. In 2022, international students accounted for 5% of the total undergraduate student population, 15% of master's degree students, and 25% of doctoral students in OECD countries.

The global cross-sector mobility of talent continues to accelerate.

The deep application and innovative development of digital technologies are reshaping the global economic competition landscape while significantly increasing the market demand for digital talent, giving rise to new trends in global talent flows. In recent years, the rapid iteration of digital technologies has driven the development of

new quality productive forces characterized by "high technology, high efficiency, and high quality." Technologies such as artificial intelligence, cloud computing, and blockchain have optimized the allocation of data resources, propelling the global digital economy's scale from $38.1 trillion in 2021 to an estimated $53.9 trillion in 2025, accounting for 45% [①]of global GDP. According to the World Economic Forum, among the top 20 fastest-growing job categories between 2025 and 2030, most are directly related to digital skills. [②]Foxconn's "Lighthouse Factory" in Zhengzhou, China, has achieved a 102% increase in production efficiency through the industrial internet. Nearly half of the world's "Lighthouse Factories" are located in traditional industries, illustrating the transformative effect of digital technology on the occupational ecosystem. McKinsey predicts that by 2030, automation technologies will replace about 30% of occupational activities but will simultaneously create 130 million new jobs.[③]

Table 2.1 Top 20 Job Roles with the Highest Demand Growth Across Industries, 2025–2030

Big Data Specialist	**Data Analyst and Scientist**
FinTech Engineer	Environmental Engineer
Artificial Intelligence and Machine Learning Specialist	Information Security Analyst
Software and Application Developer	DevOps Engineer
Security Management Specialist	Renewable Energy Engineer
Data Warehouse Specialist	Robotics Engineer
Autonomous Driving and Electric Vehicle Specialist	Blockchain Developer
UI and UX Designer	Data Engineer
Light Truck or Courier Service Driver	Digital Transformation Specialist
Internet of Things (IoT) Specialist	Process Automation Specialist

Source: World Economic Forum. Future of Jobs Report 2025.

① China Academy of Information and Communications Technology. (2022, July 29). Global Digital Economy White Paper (2022). Retrieved October 8, 2022.
② World Economic Forum. (2025, January). The Future of Jobs Report 2025 [Research report]. Retrieved March 26, 2025, from https://reports.weforum.org/docs/WEF_Future_of_Jobs_Report_2025.pdf.
③ 10 McKinsey Global Institute. Generative AI and the future of work in America. [EB/OL].(2023-07-26)[2025-03-27].
https://www.mckinsey.com/mgi/our-research/generative-ai-and-the-future-of-work-in-america.

Chapter 3: Policy Trends and Global Talent Flows

Transnational mobility of talent has become a prevailing feature in the process of globalization, with talent making an increasingly significant contribution to economic growth and industrial development in destination countries. In light of this trend, many nations have introduced policies designed to attract more talent for employment, entrepreneurship, and settlement, thereby leveraging international intellectual resources to promote national economic and social advancement. The current complex international landscape is accelerating the emergence of a multipolar, regionalized, and digitalized world order, which in turn is intensifying global competition for talent as countries seek to expedite economic recovery. Under these new circumstances, numerous countries are adopting targeted policy measures to attract greater inflows of high-level talent.

The United States:

The Biden Administration extends STEM degrees and relaxes immigration policies

In January 2022, the U.S. Department of Homeland Security officially released the “The updated DHS STEM Designated Degree Program List” adding 22 new STEM disciplines, including Bioenergy, Environmental Geosciences, Data Science, Computational Social Sciences and others. In 2023 and 2024, new fields such as Landscape Architecture, Mechatronics, Robotics, Automation Engineering Technology/Technician, Composite Materials Technology/Technician, Linguistics and Computer Science, Developmental and Adolescent Psychology, Geospatial Intelligence, Demography and Population Studies, and Environmental/Natural Resources Economics were also added. This update covers several emerging technology fields and interdisciplinary subjects, aiming to allow more students to benefit from related preferential policies for STEM majors, significantly expanding the scope of international talent recruitment.

In January 2022, the Department of Homeland Security revised the U.S.

Citizenship and Immigration Services (USCIS) Policy Manual Guidance to ensure that STEM professionals were able to apply for permanent residency and conveniently benefit from Optional Practical Training (OPT) programs.[①] This guidance states that, starting from 2022, the National Interest Waiver (NIW) will apply to a significant number of STEM professionals and entrepreneurs. In other words, their employers or proxy applicants do not need to prove that no qualified U.S. worker is available for the job. In addition, the Immigration and Nationality Act (INA) stipulates that an employer can file an immigration petition for an employee with exceptional abilities or an advanced degree. USCIS can also waive the relative requirement of job opportunities and allow immigrants who work in the national interest to apply for themselves without an employer. Obtaining a National Interest Waiver (NIW) means easier application, easier approval of green cards, and shorter waiting periods. The guidance also updated the policies regarding STEM professional's application of Optional Practical Training (OPT) programs. It clearly stated that eligible F-1 student candidates can apply to a STEM OPT extension up to 24 months. What is more, if students received a higher eligible STEM degree in the future, they could use that degree to apply for an additional 24 months of STEM OPT.[②]

The International Talent Policies of the Trump administration 2.0

Within the first week of Trump's second term in the white house, the administration implemented 98 executive orders, including 10 orders directly related to immigration policies, setting the record for the highest number of immigrations-related executive orders issued by a US president in the first 100 days of presidency in over forty years. These executive orders include Protecting the American People Against Invasion, Protecting the Meaning of American Citizenship and others.[③] Currently, the

① U.S. Citizenship and Immigration Services. "USCIS Updates Guidance on National Interest Waivers". [EB/OL]. (2022-01-21) [2022-10-08]. https://www.uscis.gov/newsroom/alerts/uscis-updates-guidance-on-national-interest-waivers.

② Certain content come from：Jianlian Zheng, Jingrong Jiang，Yuxuan Zhang. Analysis of current study abroad situations on the popular study abroad destinations in North America[M] //Western Returned Scholars Association（Overseas-educated Scholars Association of China），Center for China and Globalization（CCG）. Annual Report on the Development of Chinese Students Studying Abroad (2024~2025). Beijing: Social Sciences Academic Press (China), 2025:51-54.

③ Federal Register. 2025 Donald J. Trump Executive Orders [EB/OL]. [2025-03-28]. https://www.federalregister.gov/presidential-documents/executive-orders/donald-trump/2025.

Trump administration's policy regarding global talent recruitment and management mainly focuses on strengthening the visa vetting processes and enhancing the compliance reviews of H-1B (specialty occupations) employers.

The visa application process will be subject to stricter "enhanced vetting", resulting in an increase in the time needed for processing, and a rise in the number of RFEs (Request for Evidence), which could delay visa processing and affect the eligibility of students and employers, creating inconvenience for international talents. On June 18th, 2025, the US Department of State announced that the country will expand its screening and vetting policies for student visa applicants by reviewing the contents applicants post on social media. The department declares that this is a necessary measurement to protect US national interests through identifying and preventing those who bear hostile attitudes to the US government, culture, and principles from entering the country. To facilitate this process, applicants are required to adjust their social media settings so that their contents can be publicly viewed.

Currently, international students holding an F-1 visa who have recently completed a STEM degree may apply for OPT (Optional Practical Training) with a maximum duration of 12 months plus a 24-month extension, along with a 90-day job search period. The Trump administration has considered shortening the overall period to 12 months or less, which would significantly reduce the cost-effectiveness of hiring foreign employees and exacerbate the labor shortage in the STEM industry.

To strengthen compliance reviews of H-1B employers, the FDNS (Fraud Detection and National Security) will conduct routine on-site visits to verify whether employers are paying wages consistent with the local salary levels and whether the employee's actual work location matches their registered address.[①] Employers found in violation of the requirements will face fines, adding extra concerns for employers when hiring foreign workers, thereby reducing the number of foreign worker positions available in the US. The country is also planning to implement reforms to the H-1B visa policy in 2025. In response to the concerns regarding some companies abusing foreign labor and undercutting wages, the new policy will contain two key measures: a significant increase in the minimum wage standard for foreign employees to ensure that companies hire skilled foreigners only for positions with a genuine technical shortage and an enhancement of regulation with the Department of Homeland Security carrying

① Im, J. Y. How the Trump 2.0 Immigration Policy Will Impact Tech Employers [EB/OL]. (2025-03-03) [2025-03-28]. https://www.fisherphillips.com/en/news-insights/how-the-trump-immigration-policy-will-impact-tech-employers.html.

out employer compliance reviews and the Immigration and naturalization Service and the Department of Labor jointly tackling visa fraud. This move aims to protect domestic employment while accurately attracting skilled high-tech talents.[①]

Republic of Korea[②]:

Attracting International Students to Study in South Korea

As South Korean universities have a relatively low level of internationalization and a weak competitiveness on the global stage, there is an urgent need to enroll more international students to facilitate diverse learning experiences on campus and enhance the country's global influence. In addition, as the South Korean society is facing challenges such as low birth rates and labor shortages, attracting international students to promote the employment of foreigners has been seen as a solution to the country's problems, which in turn received firm support from the South Korean government. On August 16, 2023, the central government of the Republic of Korea announced the new "Study Korea 300k Project," which aims to recruit 300,000 international students by 2027. To achieve this ambitious goal, a series of policies are implemented to support the enrollment, education, employment, and settlement of international students with more policies to be introduced.

To recruit more international students, the South Korean government has relaxed the requirements of obtaining student visas. On July 3rd, 2023, the newly enacted visa policy lowered the required deposit for student visa applications. For D-2 visa applicants, the deposit requirement has been reduced from 26 million KRW (South Korean won) to 20 million KRW. The deposit requirement for language study visas (D-4 visas) have been lowered from 13 million KRW to 10 million KRW. Additionally, for students planning to study outside of South Korean major cities, the deposit requirements can be further lowered to 16 million KRW (D-2 visa) and 8 million KRW (D-4 visa). This policy makes it easier for international students from average-income

① McLaughlin, R. H-1B Prevailing Wage Changes Under Trump: What Employers Need to Know [EB/OL]. (2025-03-20) [2025-03-28]. https://www.boundless.com/blog/prevailing-wage-changes-under-trump/.

② Without further notice, content come from：Jianlian Zheng, Jingrong Jiang，Yuxuan Zhang. Analysis of current study abroad situations on the popular study abroad destinations in North America[M] //Western Returned Scholars Association（Overseas-educated Scholars Association of China），Center for China and Globalization（CCG）. Annual Report on the Development of Chinese Students Studying Abroad (2024~2025). Beijing: Social Sciences Academic Press (China), 2025:51-54.

families to study in South Korea.

Further relaxation of employment policies attracting high quality international students to work in South Korea

To attract international students to work in South Korea, the country's government has introduced a series of policies encouraging international students to work locally, addressing both the employment needs of graduates and the part-time work demands of students. First, the government has provided part-time job opportunities for international students in South Korea, increasing the maximum weekly hours from previously 20 to 25 (students outside major cities can work up to 30 hours per week). Second, to reduce international students' difficulty of working in South Korea, the government has relaxed language requirements. Previously, while international students could only prove their professional language proficiency through TOPIK (Test of Proficiency in Korean), under the new policy, scores from the Sejong Korean Language Assessment (SKA) and the Korean Language Ability Test (KLAT) can also be used to satisfy the language proficiency requirements for work-related purposes. Additionally, to facilitate the retention of international students in South Korea after graduation, the government has also eased the requirements for work visa applications. Previously, foreign workers could only apply for the long-term E-7-4 visa (Region-Specific Skilled Worker visa) after 5 years of experience in the country, but this requirement has now been adjusted to 4 years. Finally, the government has relaxed restrictions on hiring foreign workers, making it more convenient for international students to find employment opportunities in South Korea upon graduation.

Introducing new visa categories to attract skilled high-tech talents

To further attract high quality international talents, South Korea will launch a new round of immigration reforms starting in 2024, including the establishment of a "top tier" visa focused on areas of study like artificial intelligence, semiconductors, and biotechnology. This new visa category comes with strict criteria, aiming to attract only the most elite professionals and contribute to the overall economic development of the

country. Those who are eligible for the visa must be master or doctoral graduates that have obtained their degree from one of the top 100 universities in the world. Additionally, the applicants must have at least eight years of work experience with a minimum of three years working at a top 500 company. Qualified high-skilled talents, upon joining local high-tech companies in South Korea, will be granted long-term work and settlement benefits. These individuals can first obtain a D-10 general job search visa, which allows a maximum stay of two year, and can later transition to an F-2 long-term resident visa. After three years of employment, they can then apply for permanent residency status in South Korea.[①] In addition, to promote regional development, the South Korean government has introduced a "regional" visa program in collaboration with local governments. This program offers preferential benefits to global talents in suitable fields based on regional industrial development differences. For example, cities like Seoul and Busan, which are epicenters of high-tech industries, will relax visa requirements for international students studying in fields such as semiconductors, robotics, and artificial intelligence. Some regions will also increase the part-time hours these students may do. On the other hand, regions like North Jeolla, South Jeolla, and Jeju, which heavily focus on developing basic manufacturing industries and tourism, will relax visa requirements for international students in their fields of emphasis. Moreover, local governments will adjust the thresholds for academic qualifications, language proficiency, and work experience every three years, while also exploring dedicated visa pathways in fields such as robotics, AI, and shipbuilding.[②]

Sweden

Introducing a post-graduation transition period for international students

The Swedish Migration Agency has developed a student-migration framework that covers the entire cycle from entry to study and on to post-graduation transition. International students who have completed at least two semesters of study may apply—

① Koh, H. J. , Top-tier' visa seeks to woo foreign talent to high-tech sectors [EB/OL]. (2025-03-06) [2025-04-10]. https://www.korea.net/NewsFocus/policies/view?articleId=267603.
② Lim, J. W. Gov't launches new 'regional,' 'top-tier' visa program as part of immigration overhaul [EB/OL]. (2025-04-02) [2025-04-10]. https://koreajoongangdaily.joins.com/news/2025-04-02/national/socialAffairs/Govt-launches-new-regional-toptier-visa-programs-as-part-of-immigration-overhaul-/2276076.

under the *Residence Permit to Seek Employment after Studies in Sweden*—for a job seeker/start-up residence permit of up to 12 months. This permit requires no employer sponsorship but does oblige holders to maintain living funds at the same level as during their studies and to carry valid health insurance. Doctoral students receive a single residence permit of up to four years, and this entire period counts toward the qualifying years for permanent residence. Doctoral graduates who have accumulated four years of lawful residence and are economically self-supporting (within a rolling seven-year window, including their PhD period) may apply for permanent residence. By lengthening the post-study transition window, Sweden strengthens its pull-on research talent and closes the loop of "attracting, training and retaining" international students.①

Establishing a quality-controlled, tiered system for admitting high-skilled workers

For a broader pool of international professionals, Sweden has gradually built a three-tier system centered on quality control.

Tier 1: Since 2022 the *Job-Seeker / Start-Up Residence Permit* has allowed holders of a master's degree or higher to stay in Sweden for three to nine months without employer sponsorship to look for work or explore entrepreneurial opportunities. Applicants must show monthly maintenance funds of at least SEK 13,000 and hold medical insurance.②

Tier 2: From November 2023 the minimum salary for a standard work permit was unified at 80 per cent of Sweden's median wage—SEK 27,360 per month in 2023, SEK 28,480 in 2024 and projected to rise to SEK 29,680 in 2025—to curb wage dumping and raise the skill threshold for foreign labour.

Tier 3: Sweden has transposed the EU *Blue Card Directive* (2021/1883) into national law. From January 2025 the salary threshold for a Blue Card will fall to 1.25 times the average wage, and restrictions on changing employers and on family accompaniment will be relaxed, enhancing Sweden's appeal to top digital- and green-industry talent.③

① Residence Permit for Higher Education https://www.migrationsverket.se/en/you-want-to-apply/study/higher-education.html?utm.
② Look for work or start a business https://www.migrationsverket.se/en/you-want-to-apply/work/look-for-work/look-for-work-or-start-a-business.html?utm.
③ Inter-agency initiative to attract and retain international expertise https://www.government.se/press-releases/2024/03/inter-agency-initiative-to-attract-and-retain-international-expertise/.

For long-term status, holders of work permit who accumulate four years of lawful residence and are economically self-reliant may apply for permanent residence. In addition, a 2025 government inquiry recommends extending the normal residence period for citizenship from five to eight years and adding "good-conduct" and economic self-sufficiency checks, with implementation expected in 2026. Overall, Sweden combines a sponsor-free job-seeker channel, higher wage thresholds and stricter naturalization rules to build a tiered migration and talent-management regime that is both flexible in admission, rigorous in retention and prudent in integration—thereby underpinning the country's digital and green economic transition.

Japan

Alleviating Labor Shortages by Adjusting Work Visa Policies

In recent years, to address labor shortages, the Japanese government has made adjustments to work visa policies. Since April 2019, Japan introduced the "Specified Skilled Worker" (SSW) visa category to accept international workers with specialized skills. This visa does not impose strict educational requirements on applicants, thereby broadening employment opportunities in Japan.① To ease short-term shortages of low-level labor and avoid foreign workers occupying low-skilled jobs long-term, Japan signed memoranda of cooperation based on mutual benefit with 14 culturally similar Asian countries. This framework designates these 14 countries as core talent suppliers for the Specified Skilled Worker (SSW) visa and the Technical Intern Training Program (TITP). The SSW visa targets mid- to low-skilled workers who have completed vocational training and allows them to stay and work for a limited period. TITP helps workers from developing countries acquire specialized skills through training, and outstanding trainees may transition to the SSW visa.② This approach meets urgent industrial needs in Japan while cultivating technical talent in partner countries, achieving mutual empowerment.

① Study in Japan. Jobs and Careers in Japan [EB/OL].[2024-09-02]. https://www.studyinjapan.go.jp/en/work-in-japan/employment/status.html.
② Ministry of Foreign Affairs of Japan [MOFA]. What is the SSW? [EB/OL]. (2019-XX-XX) [2025-03-07]. https://www.mofa.go.jp/mofaj/ca/fna/ssw/us/overview/.

Strengthening the Attraction of Entrepreneurial, High-Skilled, and Strategic Sector Talent

In 2023, Japan launched the "Future Creation Individual Visa" (J-Find) and the "Special Highly Skilled Professional" (J-Skip), providing greater convenience and support for entrepreneurial and special high-skilled talents. In the same year, Japan implemented the Action Plan for Attracting Human and Financial Resources from Overseas, facilitating talent attraction in strategic sectors such as semiconductors.①

Emphasizing the Reserve of International Young Talent

Based on the 2023 "J-MIRAI Strategy," Japan set dual goals: to increase the number of international students from 280,000 to 400,000 by 2033 and to send 500,000 domestic students abroad for advanced studies. Specific measures include expanding English-taught degree programs, broadening university joint training programs, strengthening English education at the secondary school level, and improving Japanese language teaching networks for international students.

In February 2024, Japan launched a "National Strategic Special Zones" in Kitakyushu City, Fukuoka Prefecture, establishing a new employment mechanism for international students by relaxing residence status requirements for job seeking, making it easier for international students to find employment in Japan. Similar to Singapore's approach, the "Study in Japan Global Network Project," initiated in 2014, has established promotional bases worldwide to systematically promote the Japanese education brand. This coordinated "inbound + outbound" mechanism not only enhances the internationalization of domestic talent but also builds a global youth talent reserve.②

① 王辉耀,苗绿,郑金连.完善海外引进人才支持保障机制，赋能新质生产力发展[J].智库理论与实践,2024,9(05):24-30.

② The Government of Japan [JapanGov]. J-MIRAI – Japan-Mobility and Internationalization: Re-engaging and Accelerating Initiative for future generations [EB/OL]. (2023-04-27) [2025-03-07]. https://www.cas.go.jp/jp/seisaku/kyouikumirai/pdf/230427jmirai.pdf; Akimoto, D. Can Japan Boost Its Foreign Students Count to 400,000? [EB/OL]. (2024-05-16) [2025-03-07]. https://thediplomat.com/2024/05/can-japan-boosts-its-foreign-students-count-to-400000/.

China

Explore Establishing a High-tech Talent Immigration System

The National Medium- and Long-Term Plan for Human Resource Development (2010-2020) proposes to increase the introduction of foreign intelligence and to explore the implementation of skilled migration. Since the 18th National Congress of the Communist Party of China (CPC), the CPC and the State have attached great importance to the introduction of overseas talents; the level of services for the management of foreign talent projects has been continuously improved; the legal environment for the introduction of foreign talents has been continuously optimized; and significant progress has been made in reforming the foreign talent management system. In June 2016, China joined the International Organization for Migration (IOM) and officially became one of its member states. This is an inevitable choice for China to deepen its participation in global governance and international cooperation on migration. In March 2018, the National People's Congress (NPC) passed the State Council Institutional Reform Program and formally established the National Immigration Administration, marking the formal entry of China's immigration governance into a systematic development process. With the establishment of the National Immigration Administration and the continuous advancement of its governance practice, China's immigration governance has entered a systematic and professional development track, and international immigration governance has become an important starting point for China to deeply participate in global governance and enhance its international influence.

At the same time, the state and local governments are actively learning from international experience and exploring ways to attract overseas talents through the skilled immigration system. In February 2019, the Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area proposed that the Guangdong-Hong Kong-Macao Greater Bay Area should be early and pilot implementations in areas such as skilled migration and put forward initiatives on skilled migration such as the "List System for Shortage of Talents" and the "Criteria for Recognizing Foreign High-level Talents". In August 2020, the General Plan of China (Beijing) Pilot Free Trade Zone proposed to "pilot a quota management system for foreign talents". In 2021, the Outline of the 14th Five-Year Plan (2021-25) for Economic and Social Development and Long-

Range Objectives through the Year 2035 proposed to "explore ways to establish skilled migration system". At the same year, Shenzhen's Outline of 14th Five-Year Plan (2021-25) for Economic and Social Development and Long-Range Objectives through the Year 2035 proposed to "implement a more open and convenient system for the introduction and exit and entry administration of overseas talents and explore the implementation of a skilled migration policies". In that year, the Guangzhou Science and Technology Innovation Regulations came into force, and its Article 24 made it clear that "the Municipal People's Government shall promote the construction of internationalized special zones for talents and carry out the pilot project of skilled immigration", which is the first time that skilled immigration entered the local laws and regulations.[①] The Third Plenary Session of the 20th Central Committee of the Communist Party of China proposed exploring the establishment of a high-tech talent immigration system, further improving the support and guarantee mechanisms for overseas talent introduction and striving to form a talent system with international competitiveness.

Continuously Expanding Opening-up and Visa-free Access

China has been steadily increasing its openness to international talent. The pattern of attracting and utilizing talent has further developed from "pleasing those nearby and attracting those far away," gradually transforming China from the world's largest talent outflow country into a major talent inflow country. China is becoming a global hub for innovation talent aggregation, integration of innovation elements, and vibrant innovation activities.[②]

The National Immigration Administration has been continuously advancing institutional openness in immigration management, optimizing policies to facilitate entry and exit, and improving convenience for foreigners traveling and living in China. As of June 2025, China's 240-hour visa-free transit policy applies to 55 countries. Holders of valid international travel documents and confirmed onward tickets with dates and seats to a third country or region can enter visa-free through any of the 60

① Huiyao Wang, Lu Miao, and Jinlian Zheng, "完善海外引进人才支持保障机制，赋能新质生产力发展 [Improving Support Mechanisms for Overseas Talent Introduction to Empower the Development of New-Quality Productivity]," *智库理论与实践* (*Think Tank Theory & Practice*) 9, no. 5 (2024): 24–30.
②丁小溪, 范思翔, 张研, "聚人才之力 筑复兴之基——新时代人才事业发展成就综述 [Gathering Talent to Lay the Foundation for National Rejuvenation: An Overview of Achievements in Talent Development in the New Era]," 新华网 (Xinhua News Agency), 21 August 2022, http://www.news.cn/politics/2022-08/21/c_1128933335.htm (accessed 25 June 2025).

open ports across 24 provinces (autonomous regions and municipalities) such as Beijing and Shanghai and stay within designated areas for no more than 10 days. During the stay, they may engage in tourism, business, visits, and family reunions.

Meanwhile, China continues to optimize its entry policies and expand the scope of visa-free countries, allowing more foreign friends to experience higher-quality product offerings, more diverse consumption scenarios, and more convenient service guarantees. This is done through broader opening-up and deeper cooperation to share prosperity with countries worldwide. As of June 9, 2025, China's unilateral visa-free "circle of friends" has expanded to 47 countries. Holders of ordinary passports from these countries can enter China visa-free for up to 30 days for business, tourism, visiting relatives and friends, exchanges, and transit. The ever-growing visa-free list demonstrates China's firm commitment to advancing a high-level opening-up policy.

Promoting the Integrated Development of Education, Science & Technology, and Talent

In June 2020, the Opinions by eight government bodies including the Ministry of Education on accelerating and expanding the opening-up of education in the new era further proposed: "Enhance the international competitiveness of China's higher education talent training, accelerate the cultivation of high-level international talents with a global vision… improve the openness of basic education, and cultivate a new generation of youth with all-round development in morality, intelligence, physique, aesthetics, and labor, and with an international perspective."①

In September 2021, the central conference on talent-related work proposed: "Cultivate a reserve force of young scientific and technological talents with international competitiveness… increase openness to talent… strengthen international talent exchanges in line with the new situation… talent openness is two-way, not only bringing in talent but also sending talent out. Multiple approaches should be taken to open new channels for talent to go abroad for training, diversify talent training channels, and reserve more talent."

Report to the 20th National Congress of the Communist Party of China pointed

① 张烁, "教育部等八部门印发意见，加快和扩大新时代教育对外开放 [The Ministry of Education and Seven Other Departments Issue Guidelines to Accelerate and Broaden the Opening Up of Education in the New Era]," *人民日报* (*People's Daily*), 23 June 2020, p. 16.

out: “Education, science and technology, and human resources are the foundational and strategic pillars for building a modern socialist country in all respects. We must regard science and technology as our primary productive force, talent as our primary resource, and innovation as our primary driver of growth. We will fully implement the strategy for invigorating China through science and education, the workforce development strategy, and the innovation-driven development strategy. We will open up new areas and new arenas in development and steadily foster new growth drivers and new strengths.” At the same time, it emphasized pursuing a more proactive strategy of opening up, advancing a broader agenda of opening up across more areas and in greater depth; adopting more proactive, open, and effective talent policies; cultivating first-class innovators and attracting the brightest minds from around the world; improving the strategic distribution of human resources; and striving to build comparative strengths in the global competition for talent.

The Third Plenary Session of the 20th CPC Central Committee adopted the Resolution of the Central Committee of the Communist Party of China on Further Deepening Reform Comprehensively to Advance Chinese Modernization, which proposed making coordinated efforts to promote integrated reform of institutions and mechanisms pertaining to education, science and technology, and talent. Talent policies will become more proactive, open, and effective. To improve the mechanisms for nurturing talent here at home, efforts will be accelerated to develop national hubs for high-caliber personnel and platforms for attracting and pooling talent. Additionally, support mechanisms for recruiting overseas talent will be improved to create internationally competitive personnel systems.

In 2025, the Central Committee of the Communist Party of China and the State Council issued the 2024-2035 Master Plan on Building China into a Leading Country in Education, which proposed improving the strategy of opening-up in education, enhancing the global talent training and gathering capacity, expanding international academic exchanges and educational scientific research cooperation, and actively participating in global education governance.

Germany

The Skilled Immigration Act Loosens Immigration Restrictions for Non-EU Skilled Workers

Germany's Skilled Immigration Act came into effect in early 2020. The law aims to relax immigration restrictions for skilled workers from non-EU countries, introducing eligible foreign workers to address labor shortages in relevant industries. It is expected to bring 25,000 professionals and technical talents to Germany annually. The law expands the opportunities for qualified skilled workers to work in Germany, especially making it easier for technical workers from non-EU countries who have completed professional, non-academic training to work in Germany. The eligibility criteria for qualified professionals have been relaxed to include those who have completed at least two years of training and hold either a college degree or vocational qualification. Entering the labor market is also easier: as long as the applicant has an employment contract or a specific job offer and holds qualifications recognized in Germany, they can apply and work in their qualified related profession.[①] Those who secure a job contract or employment invitation can apply for a residence permit valid for four years or for the duration of the employment contract. After four years, applicants may apply for permanent residence in Germany. The law also establishes a "fast-track" immigration channel for urgently needed professionals in special sectors, such as doctors and registered nurses. These professionals do not need to apply for professional qualification recognition in Germany but only need to prove at least five years of work experience in the relevant industry to apply for immigration. Non-EU nationals who have not yet secured a job but possess basic German language skills and can support themselves financially have the right to stay in Germany for six months to seek employment, regardless of their skill level.[②]

① The Federal Government. https://www.make-it-in-germany.com/en/visa/kinds-of-visa/work/skilled-immigration-act/.
② Fachkräfteeinwanderungsgesetz vom 15. August 2019.[2022-10-10]. https://fachkraefteeinwanderungsgesetz.de/gesetzestext/.

Continuous Relaxation of Requirements for Skilled Workers Entering the German Labor Market

In 2023 and 2024, the German government made several significant amendments to the Skilled Immigration Act, further expanding the policy's specific measures and scope of application. Since October 18, 2023, a new version of the "EU Blue Card" was introduced, and the limitation on the duration of labor contracts for workers from the Western Balkans was removed. According to the "work experience regulation," the requirements for professional qualifications or academic diplomas for IT professionals were relaxed; as long as they have two years of relevant work experience, they can enter the German labor market directly without needing professional or academic certification in Germany. Starting March 1, 2024, Germany extended the "work experience regulation," which originally applied only to IT professionals, to all foreign workers except those in regulated professions.

Chapter 4: Global Talent Flow Governance: Suggestions for Improvement

The Role of International Organizations in Global Talent Flows

Talent Flow Governance in International Organizations

International organizations play a pivotal role in the governance of talent mobility. By supplying both epistemic and material public goods, they facilitate collaboration among states, non-state actors, and the private sector, thereby fostering global partnership frameworks for talent governance. Leveraging the openness of their platforms and their specialized expertise, these bodies can address concrete challenges associated with cross-border talent flows. The leading organizations currently engaged in this domain include the United Nations, the World Bank, the International Labor Organization, the International Organization for Migration, and the Centre for Global Development on Migration and Development, among others.

The United Nations

Founded in 1945, the United Nations has made two major contributions to international migration governance. Firstly, it established a normative framework for international migration composed of international conventions to protect the rights of international migrants in terms of human rights, employment, and social service. Secondly, United Nations agencies, UN specialized agencies, and other international bodies, including the International Labour Organization, Immigration Agency (International Organization for Migration), the United Nations High Commissioner for Refugees, the Human Rights Council, the World Bank, the World Trade Organization, the World Health Organization, etc., all attach great importance to international immigrants within the scope of their respective functions and powers, forming the institutional framework of United Nations system to cope with the global immigration.

International Labour Organization

The International Labour Organization (ILO), headquartered in Geneva, is a

specialized United Nations agency dealing with labor issues related to international labor standards. The ILO was established as an affiliate of the League of Nations in 1919 under the Treaty of Versailles and in 1946 became the first specialized body under the United Nations. Its purpose is to promote full employment and higher living standards, promote industrial cooperation, improve working conditions, expand social security, ensure the occupational safety and health of workers, achieve lasting peace in the world and to uphold social justice. In terms of the flow of human resources, the ILO has made three major contributions. First, it has established minimum standards for protecting the rights and interests of migrant workers through agreements and conventions. Second, it has carried out research and practice in the field of labor migration, and has provided information consultation, training, and technical assistance to member states; Third, it has built a platform to promote dialogue and cooperation on international migration governance. The International Labour Organization (ILO) launched the Fair Recruitment Initiative in 2014 and started its second phase in 2021 to improve fair recruitment by strengthening, communicating and disseminating relevant national and international recruitment processes, and reforming relative laws and policies, and at the same time to ensure effective supervision on cross-border recruitment and prevent human trafficking and forced labor by promoting fair business practices, empowering and protecting workers' rights. In addition to building a platform for dialogue, the ILO is also implementing concrete projects to strengthen the capacity of member states in governing international labor migration. For example, in order to help labor immigrants in the International Labor Corridor of South and Southeast Asia, the ILO implemented the Governance of Labour Migration in South and South-East Asia (GOALS) project in Pakistan for a period of three years (2020-2023). To improve the overall governance of labor migration at regional and national levels in South and South-East Asia, the ILO reformed the Bilateral Labour Agreement (BLA), supported the local government in developing the South Asian qualifications reference framework and promoted the introduction of a national skills passport in Pakistan. In November 2023, the International Labour Organization (ILO) launched the Global Coalition for Social Justice, bringing together over 300 partner entities to accelerate progress aligned with the Sustainable Development Goals (SDGs). The initiative focuses on addressing inequality, labor rights, and decent work, with a particular emphasis on challenges such as extreme poverty, child labor, youth unemployment, and informal employment. It applies an evolutionary strategy—

strengthening advocacy, policy coordination, knowledge production, and resource mobilization—to establish an organic link between social justice and decent work objectives while continuously refining the services provided.

During the same month, the ILO adopted the Just Transition Strategy and Action Plan, which aims to ensure fairness and inclusion as the world transitions towards an environmentally sustainable economy. The plan entails policy coordination, social dialogue, skills training, and social protection measures aimed at mitigating adverse effects on vulnerable groups. It commits the ILO to furnish technical assistance, data, and cooperative mechanisms—especially for least-developed and climate-vulnerable countries—to facilitate an orderly and equitable green transition.

Subsequently, on 1 December 2024, the ILO introduced a four-year transnational development-cooperation initiative entitled STEAM – "Extending Social Protection to Migrant Workers and Their Families in the South Asia–Gulf Corridor." Building on pilot activities conducted between 2021 and 2024, the project seeks to expand inclusive, gender-responsive, and rights-based social-protection coverage across ten countries: Bangladesh, Nepal, Sri Lanka, and India in South Asia, together with the Gulf Cooperation Council (GCC) member states of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. By operating in a corridor where migrant labor accounts for roughly 75 to 95 percent of the workforce, STEAM aims to create a pathway toward comprehensive social protection for migrant workers and their families. In November 2023, the International Lar Organization (ILO) launched the Global Coalition for Social Justice, bringing together over 300 partner entities to accelerate progress aligned with the Sustainable Development Goals (SDGs). The initiative focuses on addressing inequality, labor rights, and decent work, with a particular emphasis on challenges such as extreme poverty, child labor, youth unemployment, and informal employment. It applies an evolutionary strategy—strengthening advocacy, policy coordination, knowledge production, and resource mobilization—to establish an organic link between social justice and decent work objectives while continuously refining the services provided.

During the same month, the ILO adopted the Just Transition Strategy and Action Plan,① which aims to ensure fairness and inclusion as the world transitions towards an

① International Labour Organization. Resolution concerning a just transition towards environmentally sustainable economies and societies for all. [2023-6-16]. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_norm/@relconf/documents/meetingdocument/wcms_886647.pdf

environmentally sustainable economy. The plan entails policy coordination, social dialogue, skills training, and social protection measures aimed at mitigating adverse effects on vulnerable groups. It commits the ILO to furnish technical assistance, data, and cooperative mechanisms—especially for least-developed and climate-vulnerable countries—to facilitate an orderly and equitable green transition.

Subsequently, on 1 December 2024, the ILO introduced a four-year transnational development-cooperation initiative entitled STEAM – "Extending Social Protection to Migrant Workers and Their Families in the South Asia–Gulf Corridor."① Building on pilot activities conducted between 2021 and 2024, the project seeks to expand inclusive, gender-responsive, and rights-based social-protection coverage across ten countries: Bangladesh, Nepal, Sri Lanka, and India in South Asia, together with the Gulf Cooperation Council (GCC) member states of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. By operating in a corridor where migrant labor accounts for roughly 75 to 95 percent of the workforce, STEAM aims to create a pathway toward comprehensive social protection for migrant workers and their families.

International Organization for Migration

The International Organization for Migration (IOM), formerly known as the Intergovernmental Committee for European Migration (ICEM), changed its name in 1989 and is headquartered in Geneva, Switzerland. In 2016, the International Organization for Migration formally became part of the United Nations system. The International Organization for Migration regularly publishes the World Migration Report, which studies the current situation of international migration as well as key issues and has become the most comprehensive and authoritative report on international migration. The IOM mainly conducts migration governance in four areas: migration and development, promotion, regulation, and forced migration. Its categories of migration governance can be divided into five areas. First, implementing a plan for migration transport. Second, providing health and medical services for migrants. Third, building national immigration governance capacity. Fourth, paying attention to female immigrants. Fifth, implementing return and integration programs for highly skilled migrants to support economic and social development in developing countries.

As one of the key international organizations in solving problems in international migration, the IOM has continuously carried out many activities in the specific field of

① International Labour Organization STEAM（https://www.ilo.org/projects-and-partnerships/projects/stream-extending-social-protection-migrant-workers-and-their-families-south#:~:text=Extending%20Social%20Protection%20to%20migrant,Dialogue%20in%20the%20Gulf）

global talent flow in recent years, highlighting its role as an actor in global governance.

One step that the IOM made was to promote the Global Compact for Safe, Orderly, and Regular Migration, adopted by the UN General Assembly in 2018. This compact aims to support international cooperation in the governance of international migration so that the United Nations and other stakeholders can introduce policies for integrating migrants into local communities and reduce the fragmentation between migrant groups and local communities.

The second step is to help migrants cope with large-scale infectious diseases. In 2021, the IOM adopted a new COVID-19 Strategic Response and Recovery Plan, which targeted four strategic objectives: service continuity, public health measures, COVID-19 impact, and ease of information, in order to reduce the impact of COVID-19 on migrants' work and life.

Third, the IOM has tried to build a global policy network. In December 2020, the global policy network was launched to provide clear guidance on the use of migrant workers. It can also reduce the risks faced by migrant workers in cross-border recruitment, encourage the formation of cooperation mechanisms between jurisdictions, and promote countries to build a safe and orderly labor migration order. In 2024, the International Organization for Migration (IOM), working in partnership with academic institutions, private-sector actors, and migrant workers, launched the IOM Innovation Facility—a global platform designed to stimulate collaboration and develop transformative solutions for migration. The Facility supplies seed funding, training, and partnership-building opportunities to support projects that are both scalable and high-impact. During its first call for proposals, 130 concepts were submitted from 70 IOM countries and field offices worldwide. Following a rigorous two-stage review process, twelve outstanding projects were selected. The successful teams receive tailored support, including topic-specific training and one-on-one coaching.

Fourth, the IOM unites government, civil society, and the private sector to create a flagship program, Ethical Recruitment for Migrant Workers. This project establishes ethical recruitment practices by raising awareness and capacity, giving a voice and empowerment to migrant workers, establishing regulatory mechanisms in line with international standards, voluntary certification of private recruitment agencies, and enhancing stakeholder dialogue. On July 30, 2021, the IOM launched a partnership with the Sustainable Hospitality Alliance to address unethical recruitment by combating the exploitation of migrant workers and banning forced labor. Another example is the

International Organization for Migration (IOM) initiative launched in March 2023: GenMig – the Gender and Migration Research, Policy and Action Lab. Conceived as a multi-stakeholder platform, GenMig aims to promote innovative, gender-responsive policies, operations, programs, and practices throughout the migration field. The project is distinguished by a high level of collaboration, bringing together a global network of research institutions, national governments, UN entities, and other intergovernmental organizations, as well as non-governmental organizations and private-sector actors, all committed to advancing gender equality.

Fifth, labor mobility policies and development models are being explored through cooperation with regional governments. In February 2025, Talent Beyond Boundaries (TBB) and the International Organization for Migration (IOM) jointly launched a two-year initiative, funded by Immigration, Refugees and Citizenship Canada (IRCC), entitled "Building Ecosystem Capacity to Scale Labour-Mobility Pathways." The project seeks to expand safe, regular, and skills-oriented migration opportunities for migrants and refugees in Latin America and the Caribbean, thereby reducing dependence on smugglers and curbing exploitative practices. It supports candidates by offering training in English, soft skills, interview preparation, and sector-specific knowledge, and it commits to documenting lessons learned throughout the implementation process. The resulting evidence will be shared with regional governments and the Global Refugee Labour Mobility Task Force in order to promote more inclusive and replicable models of international labor mobility.

Other International Organizations

There are also other intergovernmental organizations that are widely involved in global migration governance. Since 2006, the World Bank has been issuing Migration and Development Reports two to three times annually, which provide in-depth analyses on international migrant remittances, migration of highly skilled workers, determinants of migration, short-term migration of population, social protection and management, trade, and the relationship between foreign direct investment and migration. From the perspective of global economics, it analyzes the effect and influence of international migration from both the macro and micro levels. It reveals the positive contribution of international migration and remittance to the global economy. The Organization for Economic Co-operation and Development (OECD) maintains a relatively comprehensive migration database and issues in-depth migration research reports, providing research materials and policy-making resources for immigration researchers

and immigration policymakers. In June 2023, the Organization for Economic Co-operation and Development (OECD) unveiled its Digital Skills Strategy, aimed at strengthening the digital capabilities of unemployed individuals while helping local labor markets meet the growing demand for such competencies. The strategy follows a two-pronged approach. First, it boosts foundational digital literacy by delivering workshops and training courses through public employment centers. Second, it runs pilot projects in collaboration with local businesses and institutions to assess the effectiveness of innovative training formats, including online modules, gamified learning, and structured internships.

Copenhagen serves as the initial implementation site, where the OECD works with corporate partners—among them Microsoft—to tailor upskilling programs to the concrete needs of both employers and job seekers. By aligning training content with real-world demand and rigorously testing novel pedagogical methods, the initiative seeks not only to enhance individuals' employability but also to create an evidence base for scaling effective digital-skills interventions in other regions.

In addition, the World Trade Organization and International Red Cross also contribute to migration management. In the Doha Round of WTO negotiations in 2001, trade in services became a subject of discussion, and the global mobility of people is the service provider, which means that the WTO also began to participate in the governance of migration issues, especially migrant workers. The WTO has always been an important participant in international forums like the Global Forum of Migration and Development. At the same time, the International Committee of the Red Cross has focused on illegal immigration and refugees. In 2023, the World Trade Organization (WTO) and the World Bank jointly launched the Services Trade for Development Initiative. Designed to help developing economies deepen their participation in global services trade—particularly under Mode 4 of the General Agreement on Trade in Services, which covers the temporary movement of natural persons—the initiative combines technical assistance, policy advice, and peer-learning activities. Its primary objective is to assist governments in dismantling domestic regulatory barriers while linking an expanded services-trade agenda to broader national development priorities.

The International Red Cross and Red Crescent Movement has increasingly focused on the protection and assistance needs of irregular migrants and refugees. In 2024, the movement adopted the Migration Strategy 2024–2030, its first unified framework for action in this domain. The document articulates a shared vision, a set of

goals, and common commitments for the movement's three components—the National Societies, the International Federation of Red Cross, and Red Crescent Societies (IFRC), and the International Committee of the Red Cross (ICRC). By clarifying these responsibilities and priorities, the strategy provides external partners, donors, and other stakeholders with clear avenues for collaboration and a deeper understanding of the movement's stance and planned interventions on migration-related issues.

Governance of Global Talent Flows in Regional Cooperation Organizations

The United Nations and its specialized agencies constitute global international organizations. This status enables them to participate in international migration governance with comparatively less direct constraint from national interests, allowing them to focus on enhancing the well-being of migrants. In a concrete implementation, however, the effectiveness of migration-related solutions often depends on the policies and attitudes of the states directly involved—namely, countries of origin, transit, and destination—which typically regard the protection of their national interests as a primary consideration. By comparison, regional cooperation mechanisms are better positioned to accommodate such divergences; they can reconcile the interests of the states concerned while facilitating mutually beneficial, region-specific solutions and, in turn, foster sustainable governance pathways.

European Commission. The commission's Department of Migration and Home Affairs is responsible for managing the international movement of talent, which is currently one of the Commission's 10 Priorities. The EU attaches great importance to the issue of international migration and guarantees the free movement and security of people is also one of the fundamental purposes of the EU. Through the Treaty on European Union, the Amsterdam Treaty, the Treaty of Nice, and the Treaty of Lisbon, the EU legally allows migrants who live or hold work visas in EU member states to have the right of free movement within the EU. In 2023, taking advantage of the "European Year of Skills," the European Commission introduced the Skills and Talent Mobility Package, which envisages the creation of an EU Talent Pool and the revision of the EU Blue Card Directive, thereby establishing a unified legal framework for highly skilled migrants. In 2024, the Commission issued the Action Plan on Tackling Labour and Skills Shortages, secured Council approval of the "Europe on the Move"

recommendation on learning mobility, and reached a general approach on the Talent Pool regulation; in the same year, it also launched the ERA Talents scheme under the Horizon Europe program to strengthen cross-sectoral mobility and cooperation among researchers. In 2025, the Commission announced the "Choose Europe for Science" package, accompanied by a pilot under the Marie Skłodowska-Curie Actions (MSCA) Postdoctoral Fellowships, while continuing legislative negotiations on the Talent Pool. Taken together, these measures have gradually built an integrated policy architecture that spans education, employment, and research.

Association of Southeast Asian Nations.

The Association of Southeast Asian Nations (ASEAN) has played an important role in immigration governance in the Asia-Pacific region. The practice of the ASEAN in the international flow of human resources mainly focuses on the governance of migrant labor. In 2007, the ASEAN Declaration on the Protection and Promotion of the Rights of Labour Migrants, also known as the Cebu Declaration, was adopted at the 12th ASEAN Leaders' Meeting, and recognizes the contribution of migrant workers to ASEAN member states. It takes measures to protect the rights of migrant workers, prevent abuse and human trafficking and demonstrate ASEAN's commitment to the governance of migrant workers. In 2008, to oversee the implementation of the Declaration, ASEAN established the ASEAN Committee on the Implementation of the ASEAN Declaration on the Protection and Promotion of the Rights of Migrant Workers (ACMW). ACMW has developed a series of projects and activities, covering the safe migration of migrants, combating human trafficking and other aspects, so as to effectively improve the relevant understanding and policy implementation ability of ASEAN governments to protect and promote the rights of migrant workers. So far, ACMW has held the ASEAN Forum on Migrant Labour (AFML) every year since 2008 and has held 14 sessions until 2021. It successfully establishes an open platform that discusses the issues faced by governments, trade unions, employers, and stakeholders in the international labor sector and effectively promotes the work process related to labor governance in ASEAN. In 2023, the ASEAN Summit in Jakarta adopted the Declaration on Promoting Competitiveness, Resilience, and Agility of Workers for the Future of Work, along with its Guidance Document, establishing a common governance framework for Member States that coordinates skills standards, lifelong learning, and digital skills enhancement. In the same year, the ASEAN Coordinating Committee on Micro, Small, and Medium Enterprises facilitated the rollout of Go Digital ASEAN 2,

which offers market-oriented digital literacy and cyber-security training to SMEs and vulnerable groups, thereby strengthening grassroots up-skilling channels. At the technological level, the ASEAN Guide on AI Governance and Ethics was also released, setting transparent, fair, and human-centered principles for regional AI R&D and application and identifying education and vocational training as critical implementation levers.

During Laos's 2024 chairmanship, the "double summit" adopted the Vientiane Declaration on Skills Mobility, Recognition and Development for Migrant Workers, reaching consensus on the integration of skills certification into labour-migration policies and on advancing mutual recognition, thus providing institutional safeguards for cross-border talent mobility. The Asia-Pacific Digital Talent Summit held in Nanning the same year further underscored the importance of AI-related core skills and, through public-private partnerships, expanded regional training and mobility mechanisms. Taken together, ASEAN has developed complementary policy instruments in three areas—skills standardization, digital and AI training, and cross-border mobility with mutual recognition—thereby progressively building an integrated regional talent-development architecture.

During Laos's 2024 chairmanship, the "double summit" adopted the Vientiane Declaration on Skills Mobility, Recognition and Development for Migrant Workers, reaching consensus on the integration of skills certification into labour-migration policies and on advancing mutual recognition, thus providing institutional safeguards for cross-border talent mobility. The Asia-Pacific Digital Talent Summit held in Nanning the same year further underscored the importance of AI-related core skills and, through public-private partnerships, expanded regional training and mobility mechanisms. Taken together, ASEAN has developed complementary policy instruments in three areas—skills standardization, digital and AI training, and cross-border mobility with mutual recognition—thereby progressively building an integrated regional talent-development architecture.

Major Issues in the Governance of Global Talent Flows

Current global governance arrangements have limitations in addressing the

intensifying competition for international talent. Regulatory gaps in cross-border mobility could, over time, lead to ruinous competition and the inefficient deployment of human capital, thereby undermining sustainable development. In broad terms, at least five structural challenges or blind spots can be identified.

First, against the backdrop of deepening globalization, international production networks and cross-cultural teamwork are becoming the norm, and diverse talent pools are widely recognized as a catalyst for innovation. Yet, the scholarly and policy communities devote comparatively little attention to the cooperative dimension of talent mobility, and no global consensus has emerged on the value of talent collaboration. In practice, competition and cooperation are two sides of the same coin; viewed from the standpoint of collective human development, cooperation is indispensable for optimizing talent allocation and advancing shared progress.

Second, the world lacks an institutionalized platform for systematic dialogue and coordination on talent policies. Pronounced cross-national differences in visa regimes, professional qualification recognition, and labor-market regulation require regular, structured engagement. Although mechanisms exist within the European Union, ASEAN, and the EU–China "People-to-People Dialogue," they remain primarily regional in scope, relatively fragile, and centered on inter-governmental interaction, with limited participation from enterprises, industry associations, and other societal stakeholders.

Third, significant data gaps persist. Even as the scale of cross-border mobility continues to expand, reliable statistics on the volume, structure, and characteristics of talent flows are scarce, constraining evidence-based policymaking and rigorous academic analysis. The rise of professional networking platforms has opened up new possibilities for large-scale data collection; however, the commercial nature of these platforms imposes privacy and proprietary constraints on data use.

Fourth, the spread of artificial intelligence and digitalization has created "algorithmic barriers" and intensified claims to data sovereignty, objectively reinforcing imbalances in talent flows. The concentration of computing power, data resources, and advanced platforms in a handful of technology hubs attracts talent to those centers. At the same time, stricter data-localization rules and reviews of cross-border data transfers limit the interoperability of global talent databases, weakening the timely measurement of supply-demand gaps.

Fifth, a structural mismatch exists between talent development systems and the

skills demanded by emerging sectors. Many education and training frameworks still rely on static disciplinary boundaries and qualification hierarchies, failing to adapt quickly to cross-disciplinary competencies required in fields such as AI and the green transition. Slow progress on mutual recognition of qualifications and lifelong learning credit accumulation further widens the divide between talent supply and labor market needs, leading to the potential underutilization of high-skill workers and dampening global innovation capacity.

The substantial contribution of cross-border talent mobility to the world economy is beyond dispute. Nevertheless, compared with international trade or financial regulation, global governance pays relatively little attention to the movement of talent. International migration—especially of highly skilled individuals—has propelled technological progress, but it also poses new challenges for the global governance architecture.

The Alliance of Global Talent Organizations: An Innovative Response to International Governance of Global Talent Flow

While there has been significant progress in both theoretical work and practical application regarding global talent flow and its governance, the focus of the world's established international organizations on immigration, such as the International Organization for Migration (IOM) and the International Labour Organization (ILO), has not been on talent, with the former focusing on refugee issues and the latter on the protection of workers' rights. While the new era has seen an increasing number of transnationally mobile talent, which has become an important group for immigrants. However, many existing challenges still impede global talent mobility, limiting the potential contribution that these talent resources could make toward economic and social prospects. This points to the need for an international organization to facilitate discussion and address a range of crucial issues, including how to better leverage the role of globally mobile talent, how to ensure and regulate reasonable talent mobility, and how to balance the interests of sending and receiving countries and find ways to resolve current and future problems.

The Purpose of the Alliance of Global Talent Organizations

Alliance of Global Talent Organizations is committed to promoting international talent mobility, strengthening extensive talent exchanges and cooperation, providing basic protections for talent, actionable service intelligence for developing countries, and reinforcing talent cooperation in key fields with developed countries, thereby improving the facilitation of talent mobility and promoting talent cultivation. Specifically, AGTO has the following goals: ①

The first goal is to create an environment of fair competition for dialogue in international talent exchanges, which includes promoting and supporting conversations related to regional and global talent, improving understanding of the opportunities and challenges in international talent exchanges, recognizing, and developing effective policy measures, and identifying comprehensive methodologies and measures that can support international cooperation.

The second goal is to improve the welfare of people around the world and encourage the international sharing of talent. Constrained by the level of economic and social development, current international talent resources vary greatly between countries. This requires the establishment of talent sharing and exchange platforms, in which governments, non-governmental organizations, other stakeholders, and talent themselves could receive professional and technical support on improving human capital.

The third goal is to protect the legal rights and interests of international talent. Under the principles of fairness, equality, and justification, AGTO is committed to actively guiding and regulating the legal rights and interests of international talent and defending the basic rights and claims of talent.

How the Alliance of Global Talent Organizations Works②

As a platform for international talent exchange and cooperation, the Alliance of Global Talent Organizations is committed to forming a series of cooperation

① Wang, Huiyao, and Alistair Michie, editors. Consensus or Conflict? China and Globalization in the 21st Century. Springer, 2021:201.
② Part of this section is from Huiyao, Wang. Lv, Miao. Jinlian, Zheng. Introduction to International Talent Studies. [M]. Beijing: China Labor Society Security Publishing House. 2020:24.

mechanisms, building platforms, gathering information, serving the development and cooperation of talent, and making contributions to effectively guiding international talent exchange, mobility, employment, certification, and residence. There are four main aspects of how the Alliance works:

Reaching Consensus. The organization is committed to talent mobility governance and promoting the international community to reach a general consensus on expanding international talent exchange and talent cooperation for mutual benefits.

Mechanism building. The organization is committed to building a mechanism for dialogue, coordination, and cooperation of global talent. First, convene a Global Talent Summit to examine all facets of international talent cooperation and development. Second, to promote mutual recognition of academic qualifications and professional qualification certification, to serve the global development of talent. Third, through the development of the service mechanism, especially the collecting and sharing of information, the organization will evaluate and guide the talent policies as well as the development of talent in each country and region, promoting the orderly flow of talent.

Platform building. Firstly, as an information platform, the organization can play the role of an official website and media platform to collect information on talent supply and demand and release crucial guidance about talent development. Secondly, as an academic platform, it releases annual reports on world talent and industries. Thirdly, as a data platform, it helps to build a database of world talent resources, statistics and service evaluation. Fourthly, as an event platform, it forms a talent community and holds annual meetings, forums, and other activities. Fifthly, as a cooperation platform, it strengthens the communication and cooperation among members, cities and countries about the development and flow of talent. Finally, as a training platform, it carries out training programs related to talent development to improve the level of talent management and the talent service capacity of governments and institutions.

Information integration. Using big data, AGTO establishes an information base for global talent flows and provides data support for the overall concepts, approaches and methods of global talent governance based on the basis of information analysis.

Practical Experiences of the Alliance of Global Talent Organizations

Since 2016, the Center for China and Globalization (CCG) has conducted in-depth

research on the Alliance of Global Talent Organizations (AGTO) initiative, organized several expert debates in Beijing, Hong Kong, Washington, and Paris, and presented AGTO on global platforms such as Paris Peace Forum and the Economic Cooperation Organization (ECO) Conference, to continuously push this alliance from concept to implementation. CCG has held several online seminars on global talent flow since the outbreak of the pandemic, inviting university presidents, the president of the International Labour Organization (ILO), representatives of the United Nations International Organization for Migration (IOM), the president of the Association of Executive Search Consultants (AESC), and representatives of human resource companies to discuss the governance and cooperation of global talent mobility. At the third Paris Peace Forum, in November 2020, the Alliance of Global Talent Organizations (AGTO) was inaugurated. Since its inception, the association has organized the online series "Global Talent Mobility in the Pandemic Era." In 2023, it hosted the Global Talent Summit in Macao, at which the report Asian Talent Development in the Age of Technological Transformation 2023 was released. The association also convened the Global Talent Mobility and Development Forum at the main venue of the Hongqiao Forum during the China International Import Expo in Shanghai, issuing the Global Talent Mobility Trends and Development Report (2022).

In May 2024, a parallel session on "Global Talent Mobility and Governance" was held during the 10th China and Globalization Forum, where the International Talent Mobility and Governance Report—Analysis with the United States as a Hub 2024 was launched. Earlier, in January 2024, the association partnered with the International Organization for Migration's China Office to hold an International Migrants Day seminar on "Talent Mobility and Integration."

Suggestions on Promoting an Orderly Flow of Global Talent

Fully Understand the Significance of Talent Flows

The universal aspiration for a better life continues to propel the cross-border and cross-sector mobility of talent. Such mobility injects diverse resources into national economic and social development, energizes scientific and technological innovation,

and intensifies global competition for international talent. Although the current international landscape is complex and fluid, migration flows have not been impeded. Against this backdrop, facilitating the sustained movement of migrant professionals, international students, and other mobile talent—while establishing multifaceted mechanisms for international exchange and cooperation—holds significant value for enhancing mutual understanding, fostering connections, broadening areas of consensus, and advancing high-quality development.

Promote High-level Opening-up to Facilitate Talent Flows

Against the backdrop of profound global transformations, openness has become the defining theme of our era. As a core element of openness, the free and full development of talent depends on an increasingly open international environment. Empirically, greater openness correlates positively with comprehensive national strength and economic resilience while also serving as an effective means of dismantling mobility barriers and fostering mutual understanding. China has consistently pursued a proactive strategy of opening to the global and is expanding the scope of that openness. Promoting high-level external openness will create more flexible and convenient conditions for talent flows. Embedding an open mindset in the reform of talent-mobility institutions, deepening substantive exchanges and cooperation, and broadening the radius of mutual trust are foundational steps toward an orderly global talent-mobility framework.

Expand the Talent Exchange and Dialogue through the China International Import Expo

The coexistence of international competition and cooperation in the talent arena necessitates a standardized, institutionalized dialogue architecture that spans multiple levels. By establishing dedicated forums—such as a Global Talent Summit—stakeholders can build a standing dialogue mechanism, facilitate cross-border exchanges, and achieve the principles of co-consultation, co-construction, and shared benefits. A summit organized around the theme of “Strengthening International Talent Cooperation” would focus on policy coordination for cross-border mobility, optimization of the business climate, and innovation in people-to-people exchange

mechanisms. Such a multilateral platform could align policies, pool resources, and support the development of global talent hubs. Through broad participation, evidence-based decision-making, and open data, these platforms can more effectively harmonize international talent policies and foster a fair, synergistic, and inclusive global mobility ecosystem.

Diversification and Digitization of Talent Mobility Governance Platforms

From a regional perspective, global talent flows are shifting from a traditional concentration in developed economies toward increasingly diversified routes, including flows from the global north to the global south. Sectorally, the digital economy is reshaping work modalities, accelerating digital transformation and cross-sector mobility of talent. Cross-regional flows engage the interests of multiple nations and thus require governance mechanisms that reflect the preferences of the majority. Cross-sector flows, meanwhile, necessitate adaptive governance innovations. First, given the multiplicity of actors and fields involved, governance platforms should emphasize fairness and broaden stakeholder participation. Second, rule-making assumes greater importance: the absence of harmonized rules can lead to disorderly competition and exacerbate inequalities in talent flows. Third, the digital capabilities of governance instruments must be enhanced—for example, by improving digital infrastructure connectivity and digitizing public services to facilitate the local integration of international talent and increase national attractiveness.

Building a Data-Driven Global System for Skills Recognition and Talent-Mobility Governance

To mitigate the structural mismatch between talent cultivation and emerging skill demands, a systematic approach spanning supply–demand monitoring, qualification recognition, and digital governance is required. First, a global skills observatory mechanism should be established under the auspices of multilateral organizations and industry platforms, producing real-time assessments of shortages in areas such as

artificial intelligence and the green economy and thereby informing education, training, and migration policies. Second, building on existing qualification-recognition frameworks, cross-border portability, and the flexible stacking of modular micro-credentials and accumulated credits should be promoted, with direct links to high-skill visas and professional licensing standards, thereby shortening the time between learning and labor-market entry. Third, a multilateral funding facility for skill development could be explored to support digital infrastructure and online training in lower-income economies, contributing to a more balanced global talent supply. Parallel efforts could digitize records of learning, internships, and employment, embedding them in qualification review and visa processes to enhance transparency and regulatory efficiency. By integrating data-driven forecasting, modular learning, inclusive financing, and digital credentialing, the talent development system can become more responsive to technological change while providing a fairer, more coordinated, and more inclusive institutional environment for cross regional and cross-sector talent mobility.

Appendix 1: Theories and Models Related to Global Talent Competitiveness

An Overview of Theories and Evaluations of National Competitiveness[①]

Competitiveness is a very complex socio-economic phenomenon, which can be examined at different levels and from different perspectives under various hypothetical conditions. Competitiveness-related research can be carried out in fields including economics, management, talent studies and all their sub-disciplines. However, due to different assumptions and analytical tools, the elements of competitiveness that are of interest also differ, thus forming different schools of thought in competitiveness research.

National Competitiveness Theories

Competitiveness Theories around the World

Professor Michael E. Porter of the Harvard Business School applied his theory of domestic competitive advantage to international competition in his book *The Competitive Advantage of Nations* and constructed the famous Diamond Model (also known as the Theory of National Competitive Advantage of Industries). Porter equates the competitive advantage of a nation to that of its industry and enterprises. He believes that a country's competitive advantage in the international market is driven by the competitive advantage of its leading industry, and the competitive advantage of the leading industry draws from the competitiveness of enterprises. The competitive advantage of enterprises is created and sustained with their domestic economic environment, the most essential of which are factor conditions, demand factors, related and supporting industries, strategy, structure, and rivalry of enterprise, and so on.

① This section is partly cited from Zhaoming, Gui. Huiyao, Wang. Report on China's Regional Talent Competitiveness. No.1 [M]. Social Science Literature Press, 2013: 46-49.

The Comparative Evaluation of National Competitiveness

A system globally accepted and widely used in evaluating the competitiveness of countries is the IMD World Competitiveness Yearbook (WCY) proposed by the International Institute for Management Development (IMD) in Lausanne, Switzerland and the Global Competitiveness Report conducted by the World Economic Forum (WEF).

The World Competitiveness Yearbook is an annual report on the economic competitiveness of countries published yearly since 1989 by IMD in Lausanne, Switzerland. The Yearbook provides extensive coverage of 64 economies, choosing indicators based on the availability of comparable international statistics and its collaboration with local partner institutes. The World Competitiveness Yearbook argues that competition among countries is reflected in their ability to create an environment for enterprises to continuously increase their competitiveness, including effective structures, institutions, and policies. In this sense, national competitiveness and enterprise competitiveness are two interdependent concepts, and the international competitiveness of a country (or region) is its ability to help enterprises remain competitive, which lays the theoretical foundation for conducting national competitiveness evaluations. The World Competitiveness Yearbook believes the development of international competitiveness is mainly determined by several important factors, such as economic performance, government efficiency, business efficiency, infrastructure and so on. The Yearbook ranks national competitiveness based on 333 competitiveness criteria selected on a basis of comprehensive research using economic literature, international, national, and regional sources and feedback from the business community, government agencies and academics. The criteria are revised and updated on a regular basis as new theories, research and data become available and as the global economy evolves. ①

The Global Competitiveness Report is a study report published by the World Economic Forum on the evaluation of national economic development and policies. Since 2004, the report has ranked the competitiveness of countries based on the Global Competitiveness Index, which is itself based on the latest theoretical and empirical research. The report compares and analyzes key competitiveness indicators of 141

① IMD. World Competitiveness Ranking. [2022-09-21]. https://www.imd.org/centers/world-competitiveness-center/rankings/world-competitiveness/.

countries and regions. It consists of more than 110 variables, two-thirds of which come from surveys and one-third from publicly available sources such as the United Nations. These indicators are organized into twelve pillars,[①] each of which represents an area considered to be an important determinant of competitiveness. [②]

Article Review of the Studies on Competitiveness Evaluation

There are various methods that can be used when evaluating competitiveness, which can be divided into single indicator evaluation and indicator group evaluation methods depending on the number of indicators. Since competitiveness is a complex phenomenon, a single index method cannot fully reflect the condition of regional competitiveness, and the indicator group evaluation method is usually preferred. Standard evaluation methods include the synthetical index method, cluster analysis, factor analysis, analytic hierarchy process, etc.

Competitiveness evaluation methods can be further divided into four major categories based on attributes, which include qualitative, classifying, ranking, and operational.

Qualitative Evaluation Methods

There are several qualitative evaluation methods including factor analysis and connotation analysis among others. The factor analysis method generally approaches the subject from the outside working inward, starting from the most superficial and easily perceived attributes, and gradually going deeper into the more internal attributes and factors. The connotation analysis method combines qualitative and quantitative analyses, focusing on the internal factors affecting regional competitiveness. Expert opinions or questionnaires can supplement analysis and decision-making for some factors that are difficult to quantify.

Classifying Evaluation Methods

Classifying evaluation methods include fuzzy comprehensive evaluation, cluster analysis and matter-element among others. The fuzzy comprehensive evaluation method includes strict quantitative characterization and qualitative descriptions of

① These pillars are namely institutions, proper infrastructure, stable macroeconomic framework, good health and primary education, higher education and training, efficient product market, efficient labor market, developed financial market, ability to use existing technologies, domestic and international market size, production of new and different goods using the most complex production processes, innovation.
② The World Economic Forum. Global Competitiveness Report. [2022-09-21]. https://www.weforum.org/reports/how-to-end-a-decade-of-lost-productivity-growth.

fuzzy phenomena that are difficult to analyze quantitatively. The combination of both is usually used in regional competitiveness evaluation.

The cluster analysis method is used to study classification, combining contemporary taxonomy and multivariate analysis. When evaluating regional competitiveness, the competitiveness status of different regions can be classified, and the relative strength of regional competitiveness can be determined.

The matter-element method applies theories from physics to the study of systems, establishes concepts of system matter-elements, compatible systems, and incompatible systems, and proposes relevant methods to transform incompatible systems into compatible systems, which can be used to deal with problems in incompatible systems through system matter-element transformation.

Ranking Evaluation Methods

Ranking evaluation methods include comprehensive index analysis, principal component analysis, factor analysis, set pair analysis, the analytic hierarchy process, and efficacy coefficient method.

Comprehensive index analysis is a comprehensive index evaluation method. The method chooses certain qualitative and quantitative indicators to achieve unified quantitative comparison after dimensionless processing, to ultimately achieve a specific comprehensive evaluation index.

The principal component analysis method defines several composite indicators that are unrelated to each other and reflects as much as possible the amount of information provided by the original indicators.

Factor analysis assumes that a large number of observed variables have a few hidden dimensions called “common factors” and that most of the total variation of each observation variable can be explained by these common factors. The part that common factors cannot explain is called the “special factor” of the variable. Therefore, all observed variables can generally be expressed as a linear combination of common and special factors, which is called the linear model of factor analysis.

Set pair analysis is a new approach to system analysis, the core idea of which is to consider certainty and uncertainty as one system. In this system, certainty and uncertainty influence, restrict and transform each other under certain conditions, using a definite uncertainty formula that can fully embody its ideas to describe various uncertainties uniformly, so as to transform the dialectical understanding of uncertainty into a specific mathematical tool.

The analytic hierarchy process (AHP) is a practical method for solving multi-level and multi-criteria decision-making problems, which provides an objective mathematical method to deal with the inevitable subjective and personal preference effects of individual or group decision-making.

The efficacy coefficient method is an evaluation method that determines the satisfaction value and the null value for each indicator according to the principle of multi-objective programming. It then uses the null value as the lower limit to calculate the power coefficient of each index through the power function, and finally weights the comprehensive index.

Benchmarking Methods

The benchmarking method not only evaluates and judges the level of competitiveness, identifying the main reasons for competitiveness, it also provides pathways for improving competitiveness. The benchmarking method follows specific steps: First, determine the subject, object, and content of benchmarking. Second, form a working group and determine the work plan. Third, collect information and conduct surveys. Fourth, analyze and compare, find out the gaps, determine the best method, clarify the direction of improvement, and formulate an implementation plan. Fifth, organize the implementation, compare the implementation results with best practices, then revise and improve these based on the comparison in order to achieve the best outcome in terms of practical application and exceed the benchmark level.

Content and Evaluation of Talent Competitiveness

Talent competitiveness is a relative concept obtained through comparison, which is a comprehensive concept. At the same time, it is also a dynamic concept that changes along with the economic and social environment. Talent competitiveness is also a differential concept that adapts to changes in subjects - different countries, different regions in the same country, different industries (sectors) in the same region, and different enterprises (organizations) in the same industry (sector). Talent competitiveness is mainly composed of three parts: (1) practical talent competitiveness; (2) potential and expected talent competitiveness; (3) the ability to transform the potential talent competitiveness into actual competitive advantage. Talent competitiveness is a comprehensive internal capability, existing in contrast to competitors and influenced by the external environment, while also incorporating

various other capabilities.

The evaluation of talent competitiveness is an important topic in the study of talent competitiveness. It not only explores the nature, origins, basic factors, and interrelationships of competitiveness in economics and management, but also to shows the status of competitiveness statistically through the use of quantitative indicators.

Talent competitiveness indicators can be divided into two main categories: effectiveness indicators and attribution indicators. The former reflects the results of the competition as with the final performance of competitiveness, while the latter reflects the causes or determinants of competitiveness. Talent competitiveness evaluation applies the methods based in economics, management, and statistics to reflect the true state of national and regional competitiveness in relative terms and make realistic evaluations and analyses.

Current well-known talent competitiveness indices include the Global Talent Competitiveness Index and the World Talent Ranking among others. These indices study the talent competitiveness of different countries from varied perspectives.

Global Talent Competitiveness Index, GTCI

The Global Talent Competitiveness Index (GTCI), first launched in 2013, is an annual benchmark report published by the European Institute of Business Administration (INSEAD) and its partners. It measures and ranks countries and cities by their performance in talent development, attraction, and retention, in order to assess the talent competitiveness of countries around the world and advice governments and enterprises on how to enhance talent competitiveness.

The GTCI is a comprehensive index that uses the Input-Output Model, which consists of six categories of indicators (four on the input side and two on the output side). The Talent Competitiveness Input sub-index is composed of four pillars describing the policies, resources, and efforts that a particular country can harness to foster its talent competitiveness. The Talent Empowerment pillar reflects the extent to which the regulatory and business environment creates a favorable climate for talent to develop and thrive. Talent Attraction, Talent Development, and Talent Retainment pillars focus respectively on what countries are doing to attract, grow, and retain talent. The Input sub-index is the simple arithmetic average of the scores registered on these four pillars. The Output sub-index is mainly measured through two pillars—Vocational and Technical Skills and Global Knowledge Skills. Mid-level skills, labeled Vocational and Technical Skills, describe skills that have a technical or professional base acquired

through vocational or professional training and experience. The economic impact of Vocational and Technical Skills is mainly measured by labor productivity, the relationship of pay to productivity, and mid-value export products dependent on these skills. High-level skills, labeled Global Knowledge Skills, deal with knowledge workers in professional, managerial, or leadership roles that require creativity and problem-solving. Their economic impact is mainly evaluated by indicators of innovation, entrepreneurship, and high-value export products dependent on these skills.

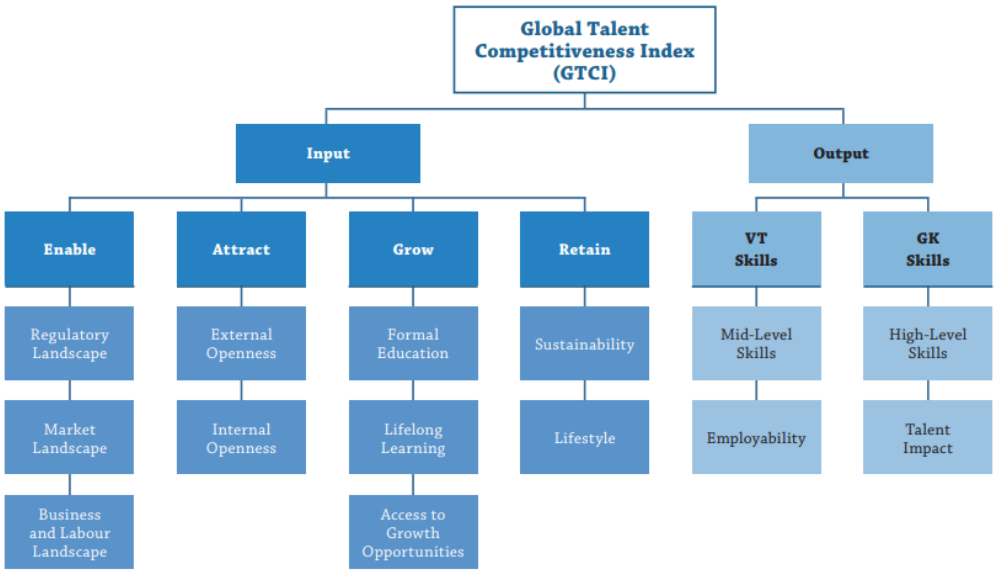

Figure 5.1 2023 GTCI structural model

Source: INSEAD. The Global Talent Competitiveness Index 2023. https://www.insead.edu/system/files/2023-11/gtci-2023-report.pdf.

The GTCI model is continually refined. For example, the 2023 model removed one indicator and added a new indicator of vulnerable employment. The number of indicators remained at 69, resulting in a more robust index.[①]

World Talent Ranking

The World Talent Ranking, published by the International Institute for Management Development (IMD) in Lausanne, Switzerland, evaluates 64 economies around the world in terms of their ability to nurture local human resources and attract outstanding talent, with statistics provided by UNESCO, OECD and partner institutions in the participating countries and regions.

The IMD World Talent Ranking is based on three main factors: the Investment and

① INSEAD Research & Learning Hub. The Global Talent Competitiveness Index (2021). https://www.insead.edu/sites/default/files/assets/dept/fr/gtci/GTCI-2021-Report.pdf.

Development Factor, which reflects the size of public investment in education and the quality of the education system; the Appeal Factor, which reflects the ability to retain local talent and attract foreign talent; and the Readiness Factor, which reflects the ability to exist talent to meet the demand of the market. The criteria data of the IMD World Talent Ranking is normalized using the same STD (Standardized Score) methodology adopted in the IMD World Competitiveness Yearbook. The overall talent ranking is constructed by aggregating all factors and presenting each factor and overall ranking from a score of 0-100.

Table 5.1 Composition of evaluation indicators of the World Talent Rankings

Factor	Criteria
Investment & Development	Total public expenditure on education
	Total public expenditure on education per student
	Pupil-teacher ratio (primary education)
	Pupil-teacher ratio (secondary education)
	Apprenticeships
	Employee training
	Female labor force
	Health infrastructure
Appeal	Cost-of-living index
	Attracting and retaining talents
	Worker motivation
	Brain drains
	Quality of life
	Foreign highly skilled personnel
	Remuneration in services professions
	Statutory minimum wage
	Remuneration of management
	Collected personal income tax rate
	Justice
	Exposure to particle pollution
Readiness	Labor force growth
	Skilled labor
	Finance skills
	International experience
	Competent senior managers
	Primary and secondary education
	Graduates in Sciences
	University education
	Management education

	Language skills
	Student mobility inbound
	Educational assessment - PISA

Source: IMD. World Talent Ranking. https://www.imd.org/centers/world-competitiveness-center/rankings/world-talent-competitiveness/.

Building a National Talent Competitiveness Evaluation System

Guiding Theories in the Evaluation System

As a country relies on talent to drive its economy and technology, the question of how to attract, cultivate, sustain talent, and foster an environment to develop the enthusiasm of talent is of strategic importance for all countries. Similarly, the basis and most fundamental factor affecting a country's talent competitiveness is its ability to cultivate, attract, compete, possess, apply, and transform talent.

From a developmental perspective, the relationship between resources and environment is based on the relationship between the internal and external factors that play a role in the development.

Factors such as economic status, education platform, science and technology platform, social environments, and cultural traditions in talent development have a considerable and sometimes decisive impact on the flow and aggregation of talent. Talent flows between countries are essentially movement between different systems, mechanisms, and policy environments and between economic, scientific, social, and humanistic environments. Talent tends to gather in places where all these factors are beneficial to the full use of their intelligence and long-term development. Therefore, when establishing external competitiveness indicators for a country's talent competitiveness, these indicators will be weighted significantly higher.

Basic Principles in Building an Evaluation System

Scientific

In creating a system for talent competitiveness evaluation system, this report has utilized the latest talent development research, fully integrating the existing evaluation

system and setting indicators closely related to talent characteristics, so that the evaluation system scientifically and holistically reflects the essence of talent competitiveness.

Quantifiable

Although systems, mechanisms, and policy environment directly affect national talent competitiveness, evaluating such factors is highly subjective, being affected by the subjective consciousness, cognitive ability and even personality, likes and dislikes of the evaluator, thus making it difficult to obtain objective and fair evaluations. Therefore, when building the evaluation system used in this report, we did not use qualitative evaluation results obtained through questionnaires and other similar methods. All indicators are based on data released by the World Bank and other institutions as well as quantitative results calculated based on the data collected.

Comparable

Given that "talent competitiveness" is highly dependent on context, this report also indexes different indicators of national talent competitiveness, making the subjects comparable.

Structure of the Evaluation System

Based on the principles mentioned above, we designed the structure for a system dedicated to evaluating talent competitiveness for individual countries. We divided talent competitiveness in terms an internal factor that reflects talent competitiveness, an external factor that influences talent competitiveness, and efficiency level factors that characterize the current status of talent competitiveness.

The internal factor of talent competitiveness reflects the core competitiveness of a country's talent pool in terms of entrepreneurship and innovation. Internal competitiveness factors include talent quantity and talent quality, which indicate the potential and expected talent competitiveness of a region. The external competitiveness factor affects the role of a country's internal talent competitiveness. It reflects external influences (work, living conditions, living environment, etc.) on innovation and entrepreneurship in a country, which can have a positive (stimulating, promoting) or negative (depressing, restricting) impact on a country's core competitiveness. External competitiveness factors include talent input indicators, living and working environment indicators, among others. This reflects a country's ability to transform potential talent

competitiveness into real-life scenarios and gain a competitive edge. A realistic expression of a country's talent competitiveness is reflected by its talent output, which indicates the extent to which a country's talent contributes to its socioeconomic development.

Evaluation Model of Talent Competitiveness

Developing a Model

Based on the structure of this talent competitiveness evaluation system, we have developed the following competitiveness evaluation model:

$$J_i = \sum B_k * Q_k$$

Where J_i is the talent competitiveness of different countries, B_k represents the indicators (indices) for the first and second tiers, etc., and Q_k is the weight of the indicators (indices) respectively corresponding to the first and second tiers. k is the number of indicators of the first and second tiers respectively. In this report, the number of indicators of the first-tier k is fixed at 5 (corresponding to the structure of the talent competitiveness evaluation system); while the number of indicators of the second tier is determined according to the different characteristics of the indicators at different levels.

Determining Weight

Different indicators have varying effects when using the evaluation index system we constructed before. In order to truly reflect the importance of different indicators in the evaluation index system, different weight coefficients are assigned to each indicator. The weight of indicators subjectively and objectively reflects the relative importance of each indicator, and reasonable weight coefficients are crucial in maintaining accuracy in the evaluation of national talent competitiveness.

For now, we are using collective advice from authoritative sources to decide the weighing of each indicator, such as the Delphi Method, the Analytic Hierarchy Process and Grey Relational Analysis.

The Analytic Hierarchy Process (AHP) is a multi-criteria decision-making method combining qualitative and quantitative analysis, which was proposed by American scholars led by T. L. Satty in the 1970s. The method is widely deployed when deciding the weighing of indicators because it provides vigorous analysis of the importance of

each indicator and performs thorough mathematical processing with a high degree of credibility, and organically combines subjective analysis and objective calculation.

After determining the structure of the indicator system, the report established indicator weighting in the regional talent competitiveness evaluation index system using the Analytic Hierarchy Process (AHP). Our research group gathered 13 experts to compare primary and secondary indicators side by side, using a scale of 1-13 to quantify the qualitative judgments of the experts, and constructed several pairwise comparative judgment matrices. In the single hierarchical ranking of these comparative matrices, we calculated the respective weight coefficients (accurate to two decimal places) and performed consistency tests. As the calculation process is relatively tedious and would take up too much space, it has not been included in this report.

Principles and Methods of Data Processing

We use indexing for all data processing in this report. There are different dimensions to the data for each talent competitiveness indicator, so it is necessary to integrate these indicators and conduct dimensionless processing of the index.

This study adopted the minimum-maximum normalization method to standardize the data to the range [0,1] without changing the numerical differences. The calculation method is as follows:

$$X_i = \frac{x_i - \min\limits_{1\le i\le n} x_i}{\max\limits_{1\le i\le n} x_i - \min\limits_{1\le i\le n} x_i}$$

To maintain the overall directional consistency of the composite index (where higher values indicate the better outcomes), negatively data were adjusted to align in the same directional process. The processing method is as follows:

$$X_i = \frac{\max\limits_{1\le i\le n} x_i - x_i}{\max\limits_{1\le i\le n} x_i - \min\limits_{1\le i\le n} x_i}$$

In this formula, Xi is the normalized index, xi is the original value, I is the country code, and n ranges from Int[1,38], representing 38 countries.

Appendix 2: Research Institutions and Research Team

Alliance of Global Talent Organization (AGTO)

As an idea incubated at the Paris Peace Forum, the Alliance of Global Talent Organization (AGTO) is an international non-governmental organization established to facilitate and promote the talent flow. Initiated by the Center for China & Globalization (CCG) and supported by academic institutions, civil society and the private sector, AGTO aims building an international platform to promote global governance innovation on talent. AGTO's objectives include: Holding the Global Talent Conference to form global consensus on talent cooperation, to build collaboration platforms for organizations, forge a "Talent Davos";Conducting researches, publish Global Talent Reports, introduce and connect the best practices in the fields, and provide talent training for international organizations; In the future, AGTO wants to create the talent credentialing services, establish a big data Centre for global talents, and other works.

Research Team Members

Wang Huiyao, Miao Lu, Zheng Jinlian, Gui Zhaoming, Zhang Wei, Zhao Zhanjie, Cao Xi, Wang Jiayu, Zhang Ruishi, Chen Jia, Li Haoyuan, Dong Siting, Lin Zhaonan，Zhang Ke

This report was made possible with the support of the Center for China and Globalization (CCG) and experts in related fields. We extend our special thanks to them. Due to the rapid pace of writing and editing, errors or omissions may be present in the report. We welcome feedback and corrections from all sectors of society to help improve our future research.

For the electronic version, please contact: zhengjinlian@ccg.org.cn

全球人才流动趋势与发展报告（2025）

GLOBAL TALENT FLOW: TRENDS AND PROSPECTS

本报告汇聚了国际人才组织联合会（AGTO）研究人员及人才领域专家学者近年来的最新研究成果，通过综合研究、数据分析、政策分析，多方位展现全球人才流动的最新情况。本报告旨在推动开放，促进流动。第一章分析世界主要国家的人才竞争力指数，第二章分析全球人才流动的现状与趋势，第三章分析全球主要国家人才流动政策动向，第四章分析全球人才流动治理情况，并提出相关建议。本报告希望建立全球人才合作对话机制，促进国际人才交流，为全球人才流动提供治理方案与国际公共产品，推动共商共建共享共赢，促进达成人才发展与交流的全球共识，提升人才流动的公平性、协同性、包容性。

This report brings together the latest research results from researchers and experts of the Alliance of Global Talent Organization (AGTO) in the field of talent development, examining the current state of global talent mobility through comprehensive research, data analysis, policy analysis, and other analytical perspectives, based in principles of openness and the free flow of human resources. The first chapter looks at the talent competitiveness index of major countries. The second chapter looks into the current state of and trends in global talent mobility. The third chapter dives into the talent policies of major countries and their potential effects on global talent flows. The fourth chapter closes the report by providing concrete advice for managing global talent flows. We hope to leverage this report to foster a global dialogue on international talent exchange and that it will serve as a global public good and as an aid to international talent governance. We are confident that facilitating the international flow of talent can effectively create a fairer, more cooperative, and inclusive international environment where we can reach a consensus on talent development and exchange and promote a shared future with win-win results.

报告电子版

Scan to view the report

AGTO
Alliance of Global Talent Organizations
國際人才組織聯合會

http://www.agto.org/